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1910.

City and County of Bristol.

ANNUAL REPORT

OF THE

Medical Officer of Health.

Printed by order of the Health Committee.

BRISTOL:
BENNETT BROTHERS, LD., PRINTERS, COUNTERSLIP
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HEALTH COMMITTEE.

1910.

The Right Honourable The Lord Mayor:

Christopher Albert Hayes, Esq.

Chairman:

Councillor Colston Wintle., M.R.C.S.

Deputy Chairman:

Councillor Frank Moore.

Alderman Terrett.

Councillor Job Amos

,, Henry Anstey.
(*Chairman of Finance Sub-Committee*).

,, W. L. Christie, M.D.

,, W. R. Cornforth.

,, A. Dowling.

Councillor E. M. Dyer.

,, A. Froud.

,, H. J. Maggs.

,, W. G. Pope.

,, F. W. Stone.

,, J. S. G. W. Stroud.

,, C. J. Thorne.

CITY OF BRISTOL.

HEALTH DEPARTMENT, 1910.

Medical Officer of Health: D. S. Davies, M.D., D.P.H.

Chief Inspector: J. W. Kirley.

Superintendent Inspector: ‡*T. Lowther.

District Inspectors (12):

	District.		District.
G. E. Bush	(Bedminster W.)	*†T. J. Crofts	(S. Philip)
*H. Hasell	(Horfield)	*F. Kirley	(Stapleton and S. George N.W.)
*J. Wilkinson	(Clifton)	*†A. W. Griffiths	(Avonmouth)
*H. J. Kirley	(Cotham)	*G. Best	(Westbury-on-Trym)
*J. T. Lyons	(S. Geo. E.)	*E. J. Burr	(S. George S.W. and Redcliff)
*†F. R. Slade	(S. Paul)		
*†A. E. King	(Knowle and Bedminster E.)		

Inspector of Common Lodging Houses and Bakehouses:
*S. O. Dimond.

Inspector of Dairies, Cowsheds, and Milkshops:
*†H. C. Leat.

Inspectors of Slaughter Houses, Meat, and Fish:
S. Thomas. | *A. Gitsham.

Inspector of Workshops, &c.: *W. J. Wreford.

Inspector of Tenement Houses: *†J. B. Paske.

Chief Clerk: L. W. A. Statton.

Statistical Clerk: W. N. Brown.

Clerks:
C. W. M. Vincent, L. P. Wilson, E. E. Masters,
J. G. Watson, C. Bryant.

CITY HOSPITALS.

General Medical Superintendent: (Supervisory) D. S. Davies, M.D., D.P.H

Visiting Medical Officer at Novers Hill Hospital:
G. C. Pauli, M.R.C.S.

Resident Medical Officer at Ham Green Hospital:
B. A. I. Peters, B.A., B.C., M.B., D.P.H.

PORT OF BRISTOL.

Port Medical Officer of Health:
D. S. Davies, M.D., D.P.H.

Assistant Port M.O.H.: J. C. Heaven, M.R.C.S., D.P.H.

Chief Port Inspector: S. O. Dimond.

Port Inspector: A. Dickens.

Assistant Port Inspector and Boatman: J. Rex.

Inspector of Foods: *‖J. A. Robinson.

Master of S.S. "Luath": §G. Jackson.

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‡ Surveyor's Certificate, Sanitary Institute.
* Inspector's Certificate, Sanitary Institute.
† Registered Plumber.
§ Certificated Pilot for Bristol Channel.
‖ { London Inspector's Examining Board Certificate.
Meat Certificate, Sanitary Institute.
Meat Certificate, Liverpool University.

Public Health Office,
40 Prince Street, Bristol,
May, 1911.

My Lord Mayor and Gentlemen,

The record rates noted in this Report for 1910 are probably, in large degree, due to the exceptional climatic conditions of the year, which lacked excessive heat in summer and excessive cold in winter, so that both infants and aged persons shared a respite from high seasonal mortality. It is of course satisfactory that Bristol should participate in favourable conditions observed in England generally, but it would be unwise to cherish illusions as to the permanence of so low a death rate, and, unless prolongation of bodily and mental vigour accompanied prolonged life, a continuous ideal death rate of 10 per 1,000 might well involve many economic disadvantages. In regard to infant and aged mortality too, recurrence of normal summer and autumn temperatures, and of long frost-bound winters will undoubtedly bring about a return to higher infantile and aged rates.

The census figures, which have been issued while this Report was in proof, show that the increase of population during the intercensal period 1902-1911 has not kept pace with the increase observed during the previous intercensal period 1892-1901.

In 1891 the error in estimation amounted to 10,199, but in 1911 the error is far greater, amounting to 30,452.

The immediate effect is that all recent birth-rates and death-rates are incorrect, showing a lower rate than actually occurred ; but this correction (about 8 per cent.), does not make a notable difference in the city rates ; thus our death-rate for the year 1910 has to be written 12·71, instead of 11·82 ; while our birth-rate has to be written 23·21, instead of 21·58.

The low birth-rates of recent years account for a part of the deficit, perhaps one-third of the total, but the rest of the variation must be ascribed to various economic and other causes affecting great business centres.

No error is involved in the estimation of the infant mortality rate, for this is calculated, not on the population, but on the births actually registered, and it therefore stands for 1910 at the remarkably low figure of 90·3.

The death-rates are still comparable with previous Bristol rates, as the error has been consistently maintained over the decade, and therefore they still constitute local records. In comparison with other towns, too little if any noteworthy error is to be anticipated.

I am, my Lord Mayor and Gentlemen,
Your obedient Servant,
D. S. DAVIES, M.D.,
Medical Officer of Health.

REPORT

PART I.

Population and Acreage.

The estimated population of the City at the middle of 1910 was 382,550 persons, upon an area of 17,289 acres.

Table A. **

Showing Population, Acreage, and number of Persons per Acre (Density) in each of the Registration Sub-Districts of Bristol for 1891 compared with the same data for 1910.

Registration Sub-Districts, 1891. (Census Year)	Acreage.	Population middle of 1891.	Density, 1891.	Registration Sub-District. 1910.	†Acreage.	Population middle of 1910.	Density 1910.
S. Mary Redcliff ...	170	9,287	54·6	‖ Bristol Central. S. Mary Redcliff (Including Castle Precincts, and part of S. Paul).	**810	**37,110	**45·8
Castle Precincts ...	119	5,558	46·7				
S. Paul	148	19,046	128·6				
S. James	68	7,817	114·9	‡S. Paul and S. Augustine			
S. Augustine ...	250	13,788	55·1				
Bedminster ...	992	45,812	46·1	Bedminster, Knowle, etc. ... (Including Somerset added area)	**1,924 1,184	**88,819	**28·5
Clifton	921	29,361	31·8	Clifton	**1,504	**46,647	**31·0
Ashley	434	24,190	55·7	Ashley	**1,365	**50,361	**36·8
Westbury	692	15,540	22·4				
				S. George	**1,846	**71,591	**38·7
S. Philip	744	51,650	69·6	S. Philip	**736	**49,653	**67·4
				Stapleton	2,573	27,676	10·7
				Westbury-on-Trym (Including the whole of Avonmouth, Shirehampton, Westbury-on-Trym, and part of Henbury, added to City from Barton Regis Rural District, 1st October, 1904.)	5,347	11,693	2·1
Bristol City (1891)	4,538*	222,049	48·93	Bristol City (1909)	**17,289	**382,550	**22·12

* Ordnance calculation, including water areas.

† Census, 1901, and including district added on 1st October, 1904. The acreage is not adjusted for the alterations made in the Registration Sub-Districts in April, 1909.

‡ The Registrar General of Births, Deaths and Marriages, ordered and declared, that on and after 1st April, 1904, S. Augustine Sub-District shall be united with S. Paul Sub-District, and the enlarged Sub-District so formed, shall be called and known as S. Paul and S. Augustine Sub-District.

‖ The Registrar General of Births, Deaths and Marriages, ordered and declared, that on and after 1st December, 1905, the S. Mary Redcliff Sub-District shall be united with S. Paul and S. Augustine Sub-District, the enlarged Sub-District to be called and known as Bristol Central Sub-District.

** Considerable alterations were again made in the Registration Sub-Districts in April, 1909. (*See next page*); and the acreage has not been adjusted, therefore the density column in Table A is not comparable with former years.

Changes in Registration Districts and Sub-districts.

Changes in Registration boundaries are made by order of the Registrar General with the consent of the Local Government Board. Those changes which affect the boundaries of Registration Districts are necessitated by changes in the boundaries of Poor Law Unions.

The following summary shows the changes made in the Bristol District, on April 1st, 1909, and is taken from the Quarterly Return of Births and Deaths of the Registrar General, dated 26th July, 1909.

The figures in the present Annual Report are based upon the revised figures relating to the newly constituted areas. These will, of course, not be accurately comparable with the figures for the Sub-Registration Districts of previous years.

1909.

1 Apr. (320)—BRISTOL : on this date the Sub-Districts of Bristol were re-arranged and are now constituted as follows :—

Clifton	1.	Clifton North Ward	8,649
		Clifton South Ward	8,344
		St. Michael Ward	11,769
		St. Augustine Ward	17,683
Bristol Central	2.	St. Paul Ward	17,966
		St. James Ward	11,268
		Central East Ward	6,023
		Central West Ward	1,726
		Redcliff Ward	8,679
Bedminster	3.	Bedminster East Ward	18,739
		Bedminster West Ward	19,406
		Southville Ward	18,814
Knowle	4.	Somerset Ward	12,645

St. George	5.	St. George East Ward	20,655
		St. George West Ward	21,913
		Easton Ward (part of, viz., No. 2 Polling District)	11,061
St. Philip & Jacob	6.	St. Philip and St. Jacob North Ward	20,466
		St. Philip and St. Jacob South Ward	20,691
		Easton Ward (part of viz., No. 1 Polling District)	10,068
Stapleton	7.	Stapleton Ward	21,236
Ashley	8.	Horfield Ward	13,975
		The District Ward	18,047
		Redland Ward	9,768
Westbury-on-Trym	9.	Westbury-on-Trym Ward	9,451

GENERAL AND VITAL STATISTICS.

Population.

	Area in Acres	Population (Estimated)	Ratcable Valuc.
City of Bristol, 1897	4,661	232,242	£1,153,311
Additions of 1897	6,756	85,800	£246,815
Additions of 1904	5,347	13,443	£69,560
City of Bristol, 1910	17,004	382,550	£1,845,161

This table shows that the City covers not quite four times the acreage which it covered in 1897, and is morc populous by 150,308 persons. The City Medical Officer of Health has inherited the duties and responsibilities of the Medical Officers of Health of this added City; considerable economy has thus been effected in the medical administration, as the salaries of the various medical officers have lapsed.

There is no salaried Assistant Medical Officer to help in either City or Port work, but the occasional Medical Assistance, required in emergency, is paid for by fees for work done. The various extensions have resulted in the displacement of five part-time Medical Officers of Health, whose districts have been absorbed.

The additional work thus devolving on the Medical Officer of Health includes :—

City.—In 1897 the area of the City was increased by 6,756 acres, and the population by 85,800 persons.

In 1904, the area was further increased by an addition of 5,347 acres, and the population by 13,443.

The districts included three Local Board Districts, each in charge of a part-time Medical Officer of Health, and parts of two Rural areas.

Port.—In 1897 responsibility for the Gloucester Port work, under the Cholera, Plague and Yellow Fever Regulations, was imposed by special order upon the Bristol Port Medical Officer of Health.

In 1907, the Public Health (Regulations as to Food) Act imposed all responsibility for the inspection of Imported Food for the whole Port of Bristol upon the Port Medical Officer of Health. This had hitherto been carried out only in Ports under a whole time Port Medical Officer of Health.

No salaries are assigned for any of the above added duties.

Births.

The births registered in Bristol in 1910 were 8,258 of which 308 were returned as illegitimate, a percentage of 3·7.

The birth rate for the year was 21·5 a decrease on the rate of last year, which was 22·5 ; the rate has since 1882 shown an almost continuous decrease. (Table B). The rate for the 77 great towns in 1910 is 25·0.

The excess of births over deaths during the year 1910 (*natural increase of population*) is 3,735. The estimated *actual increase* from 1909 to 1910 is 4,908.

Marriages.

2,670 Marriages took place within the borough of Bristol during 1910, exactly the same number as in 1909. The annual marriage rate per 1,000 living is thus 6·9 compared with 7·0 the rate of last year.

Deaths.

4,523 Deaths were registered in the district during the 52 weeks ending the 31st December, 1910, of which 81 or 1·7 per cent. were returned as deaths of illegitimate children. The recorded general death rate for the year, uncorrected for age and sex distribution is 11·82 per 1,000 living, compared with a rate of 12·89 for the year 1909. The death rate recorded for the 77 great towns in 1910 is 13·4.

The death rate of 11·82 is the lowest death rate ever recorded in the City.

Infant Mortality.

Of the 4,523 Deaths, 746 were of infants under one year. The proportion of these deaths to every 1,000 births (infant mortality) was 90·3, compared with a rate of 101·0 for the year 1909, 125·8 for the year 1908, 100·9 for the year 1907, 127·6 for the year 1906, 122·4 for the year 1905, and 133·7 for 1904. The rate recorded in the 77 great towns in 1910 is 115.

The Infant Mortality rate varied thus :—

Bristol Central	105·6
S. Philip	100·4
Clifton	99·1
S. George	95·8
Bedminster	88·1
Westbury-on-Trym	69·6
Knowle	66·5
Ashley	57·5
Stapleton	57·3

In Table B. will be seen the annual infantile mortality rates in Bristol for the past 25 years.

The Infantile Death Rate of 90·3 is the lowest rate recorded in the City. The Infantile rates are remarkably low in every Registration Sub-district. The highest rates were recorded in Bristol Central (Castle Precincts, S. Mary Redcliff, S. Paul, S. James, S. Augustine) and in S. Philip.

INFANT MORTALITY.

The Health Committee has not yet arranged for the employment of Health Visitors, nor has the Notification of Births Act been adopted.

The Infantile Mortality for the City generally shows ready response to favourable climatic conditions in any years, as evidenced by the low returns for the equable years 1907, 1909 and 1910.

In the central districts, however, even in these years. the Infant Mortality rates are higher than they should be, and the Public Health Authority might well join with private enterprise in distributing advice and help.

On November 5th, 1909, a Committee of Ladies, comprising Dr. A. Cornall, Mrs. S. H. Badock, Miss Constance Densham, Miss M. Fry, Miss L. Miles, Miss E. Sturge, Miss Townsend, Mrs. H. C. Trapnell, and Mrs. Mark Whitwill (hon. sec.), opened the School for Mothers in the Broad Plain, Bristol ; and Miss Townsend has kindly furnished me with the following report of their work.

BRISTOL SCHOOL FOR MOTHERS.

The Bristol School for Mothers, Broad Plain, St. Philip's, has now been open about 18 months, during that time the attendance has steadily increased.

The number on register April 1910 was 57
,, ,, ,, 1911 ,, 140

The average attendance at the weekly Infant Consultations and various classes is 35.

During the twelve months from April, 1910-1911—

22 Infant Care and Health Talks have been given.
10 Home Management ,, ,, ,, ,, ,,
6 Cookery Demonstrations ,, ,, ,, ,,

Many demonstration lessons have again been given on the making and repairing of infants' and children's clothing, bathing and dressing infants, washing bottles, preparing food, etc. Special lessons have been given on the care of children's eysight and care of teeth. Special classes are held for expectant mothers, at which Dr. Cornall or a trained nurse gives advice as to care of the mother's health and preparation for confinement.

A Maternity Provident Club has been started, expectant mothers are encouraged to save money for the expenses of confinement, and advised how best to lay it out.

Our medical officer, Dr. A. Cornall, reports :—

> "There is much encouragement in the remarks made by mothers attending from week to week, who in respect of some elementary rudiments in infant management have been quite ignorant, and now find great improvement by attending them. They are glad to learn when the advice is given *with authority*. We are thankful to say many of the parents have responded to the advice given, and there is marked improvement in the condition of the babies."

The homes of members are regularly visited by tactful, experienced workers, who are often able to give more directly appropriate advice to individual mothers in the privacy of their own homes than is possible in the classes at "School." We believe that this constant home visiting and friendly supervision is of the utmost value, an essential to any scheme for securing a better standard of health among mothers and infants in the poorer parts of our City.

We are not yet reaching quite the class of woman who most urgently needs teaching. Those who come are certainly the better for the School ; they all need help ; they all learn something. But there must be many others who do *not* come who are still more ignorant, whose babies are even more sickly and wrongly managed than those under our care. It is difficult to search out these cases. Circulars have been sent to certified midwives in the district, ladies managing Mothers' Meetings have been asked to persuade their more ignorant women to come. This is not enough. The only way to grapple satisfactorily with the problem of infant mortality is to get every birth notified within forty-eight hours of its occurrence under the Notification of Births Act, and to appoint women Health Visitors, who could ascertain at once whether the infant was thriving and well cared for. If such work were undertaken by the Municipal Health Committee of Bristol, and if cases in which the babies did not thrive or where mothers needed continuous supervision were handed on to our Committee, we should get into touch with *exactly* the right material for our work.

(Signed) F. M. TOWNSEND.

Seven Chief Epidemic Diseases. (Zymotics).

The rate of Mortality from the Seven Chief Epidemic Diseases, viz. : Small-pox, Measles, Scarlet Fever, Whooping Cough, Diphtheria, Fever (Typhus, Enteric Fever, and Simple Continued Fever or Pyrexia) and Diarrhœa was in 1910, 0·6 per 1,000 living, compared with a rate of 0·9 in 1909, 1·2 in 1908, 0·8 in 1907, 1·6 in 1906, 1905 and 1904, and 1·1 in 1903.

The rate recorded for the 77 great towns in 1910 is 1·2.

The Zymotic rate of 0·6 is the lowest ever recorded in the City.

Annual Rates per 1,000 living. 1910.

	Births	Deaths	Principal Epidemic Diseases. Cols. 4—10.	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Enteric Fever	Diarrhœa	Deaths under one year to 1,000 Births
Cols. ...	1	2	3	4	5	6	7	8	9	10	11
England and Wales	24·8	13·4	0·99	0·00	0·23	0·06	0·12	0·24	0·05	0·29	106
77 Great Towns	25·0	13·4	1·23	0·00	0·31	0·08	0·12	0·29	0·05	0·38	115
136 Smaller Towns	23·7	12·4	0·88	0·00	0·16	0·06	0·11	0·24	0·05	0·26	104
England and Wales less the 213 Towns	25·0	13·6	0·74	0·00	0·15	0·05	0·12	0·17	0·05	0·20	96
Bristol	**21·7**	**11·5**	**0·59**	—	**0·08**	**0·03**	**0·10**	**0·17**	**0·02**	**0·19**	**90**

Mortality at Ages between 5 and 65.

2,010 Deaths were returned, corresponding to an annual rate of mortality per 1,000 living between these ages, of 6·2, compared with a rate of 6·6 in 1909, 6·5 in 1908, 7·0 in 1907, and 7·1 in 1906.

Mortality amongst Aged People.

1,474 Deaths of Persons aged 65 and upwards were registered, whose ages averaged 75 years and 4 months. The rate of mortality per 1,000 amongst persons living at these ages was in Bristol 82·9, compared with 86·5 in 1909, 86·2 in 1908, and 87·7 in 1907.

PREVALENCE OF SICKNESS IN 1910.

Small-pox.

The prevalence and fatality of this disease is here shown for the past 25 years :—

SMALL-POX.

Year.	Cases Notified.	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000 Living.	Case Mortality per cent.
1886	?	?	8	3	?
1887	163	72	13	5	7·9
1888	224	98	26	11	11·6
1889	0	—	0	—	—
1890*	0	—	0	—	—
1891	16	7	1	0·4	6·2
1892	0	—	0	—	—
1893	165	73	20	8	12·1
1894	201	88	16	7	7·9
1895	4	1	0	—	—
1896	42	18	5	2	11·9
1897	10	4	1	0·4	10
1898†	2	0·6	0	—	—
1899	0	—	0	—	—
1900	0	—	0	—	—
1901	1	0·3	0	—	—
1902	4	1	2	0·6	50
1903	46	14	3	0·8	6·5
1904‡	34	9	1	0·2	2·9
1905	13	3	0	—	—
1906	32	8	0	—	—
1907	6§	1·6	1	0·2	16·6
1908	1	0·2	0	—	—
1909	39††	10	9	2	23·0
1910	4**	1	0	—	—

* Compulsory Notification began. † City Extended.

‡ City again Extended in 1904. § Including one Port case.

†† This total of 39 includes 35 cases in the City actually notified, (one being an Officer of the Cossham Hospital, who lived in the County but formed one of the Cossham group) ; and there were three abortive cases, and one unrecognised case in the east Bedminster group which were not notified. The unrecognised first case in the Cossham outbreak admitted from the Chipping Sodbury Rural District to Cossham Hospital is not included amongst the City cases.

** Including Two Port Cases.

Small Pox—1910.

On February 7th, 1910, a coal haulier in S. Philip (J. T.) was notified. His illness commenced on February 3rd, followed by an eruption on 5th which was well out on removal to Hospital, and suggested the possibility of a severe case.

The usual measures of precautions, including vaccination and re-vaccination, were secured; and a strict watch, involving 536 visits, was kept upon the movements of contacts.

No further case occurred from this introduction, and the patient, whose attack partially aborted, was discharged from Hospital on 16th March.

Two other cases were notified and removed to Hospital for isolation, but were probably not Small-pox.

Eleven suspicious cases were medically visited during the year. Six "forward notices" were received from other towns, and 45 visits were paid to these.

Altogether the visiting of Small-pox "contacts" and "suspects" involved 885 visits.

Scarlet Fever or Scarlatina.

During the year 1910, 1,216 cases of Scarlet Fever were notified, and 12 deaths occurred, giving a case mortality of 1 9 per cent.

The prevalence of, and fatality from, this disease for the past twenty-one years, that is to say, since notification commenced, is shown here. Columns 2 and 4 should be used in comparing different years, as they are adjusted for the varying populations.

SCARLET FEVER.

	1	2	3	4	5
Year.	Cases Notified.	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000 Living.	Case Mortality per Cent.
1890	559*2	253	40	18	7·1
1891	888	400	37	17	4·1
1892	1,442	644	47	21	3·2
1893	1,245	553	35	16	2·8
1894	485	214	16	7	3·2
1895	562	252	16	7	2·8
1896	1,352	586	59	24	4·3
1897	511	220	18	7	3·5
1898*	382	120	14	4	3·6
1899	697	217	13	4	1·8
1900	1,971	606	39	12	1·9
1901	2,206	670	36	10	1·6
1902	2,724	793	66	19	2·4
1903	2,168	639	49	14	2·2
1904§	1,258	366	36	10	2·8
1905	1,085	302	39	10	3·5
1906	1,019	280	27	7	2·6
1907	886	240	26	7	2·6
1908	486	127	10	2	2·0
1909	692	183	12	3	1·7
1910	1,216	317	12	3	0·9

* City Extended. § The City was further Extended in 1904.

*2 Notification commenced on February 12th, 1890, so that the case mortality for this year is probably overstated.

The type of disease has again been mild, and the mortality is the lowest, excepting that for 1908, recorded over a long series of years.

The distribution of attacks by age is shown below :—

0–1	1–5	5–15	15–25	25+	Total.
11	331	792	59	23	1216

The distribution of the disease in each quarter of the year is shown in the following table for each Registration Sub-district of the City :—

SCARLET FEVER.

REGISTRATION Sub-District.	CASES NOTIFIED.				Year. 1910	Attack Rate per 100,000 Living
	1st Qr.	2nd Qr	3rd Qr	4th Qr		
Ashley	26	32	17	27	102	202
Bedminster	17	28	27	27	99	142
Bristol Central ...	17	13	25	64	119	320
Clifton	22	20	22	14	78	167
Knowle	16	17	4	6	43	233
S. George	19	42	142	109	312	435
S. Philip	64	46	88	130	328	660
Stapleton	8	6	8	16	38	137
Westbury-on-Trym ...	7	29	38	8	82	701
Public Institutions ...	3	—	2	9	14	—
Not belonging to City ...	—	—	—	1	1	—
Total	199	233	373	411	1216	317

The attack rate per 100,000 population was lowest in Stapleton, Bedminster and Clifton, and highest in Westbury-on-Trym, S. Philip and S. George.

Isolation in Scarlet Fever at a public Hospital is not needed for the children of persons in good circumstances, who will indeed do as well or better at home at the expense of some little inconvenience and trouble to the parents. Isolation Hospitals have their use in securing isolation in cases which cannot possibly receive adequate attention at home ; as, for example, amongst the homes of the poorer wage-earners, with large families and few rooms.

The epidemic of Scarlet Fever which began in 1900 afforded the first opportunity we have had of observing the habits of this disease in the extended City. The added districts proved very susceptible of infection, as was anticipated, and the immense increase in population and area has had the marked effect of prolonging the outbreak, which, however, showed a very marked decline in 1907 and reached its lowest point in 1908.

The prevalence of Scarlet Fever bears no relation to the " Sanitary " condition of the district, it is a contact-spread disease, and is largely kept alive by mild cases which may be unrecognised (" missed cases "—" carriers") The influence of infected clothing and infected premises in this disease has probably been over-estimated, while the influence of " personal " infection has been much under-estimated. Schools may have considerable influence in the spread of Scarlet Fever, but this is minimised by the strict watch kept upon the notification returns in connection with school attendance.

The difference in the fatality of Scarlet Fever forty years ago and now is quite remarkable. For instance, in 1863 and the following year over 1,100 deaths occurred from this disease. In 1869 and 1870 over 900 deaths occurred, in 1875 and 1876 over 700, and in 1880 and 1881 nearly 400. In 1886 and 1887, 300 deaths occurred. The next epidemic was in 1896, when 59 deaths resulted. In 1900 a larger epidemic caused only 39 deaths, in 1901 a still greater prevalence of the disease resulted in only 36 deaths, while in 1902 the deaths rose to 66. The population in 1910 was 382,550 compared with 158,000 in 1863, if there had been a similar loss in regard to population as there was in the epidemic of 1863, the number of deaths in 1910 would have reached 2,500 instead of being only 12.

The Death-rate for Scarlet Fever, 3 per 100,000 population, is the lowest rate ever recorded in the City, with the exception of 2 per 100,000 in 1908.

The type of disease, judged by the case mortality, is much milder now than it was 40 years ago, hence it is argued that we may revert to the fatal epidemics which were then experienced. But the favourable alteration in type is probably, in large part, a result, not of general "sanitary" improvement, but of the development of that part of Public Health work which secures removal and care in Hospital for those patients who, if kept at home amongst large families in small houses, would, by accumulation of infection, lead to septic and fatal forms of the disease. It is in this, I believe, that much of the value of a judicious use of isolation hospitals consists; for in large cities it is not to be expected that hospital isolation can succeed in blotting out a disease which is perennially kept going by personal infection through undiscovered cases. It is noteworthy that the improvement in the fatality returns has been maintained in spite of the unfavourable factor in recent years of increasing school attendance.

The view may be advanced, too, that, in comparison with races that have not been subjected to selection by the constant presence of the Scarlet Fever organism in the environment, we have acquired, as a race, a very high resisting power; short of complete immunity, but so marked that the mortality caused by individuals succumbing in the process of acquiring immunity will be so small that it does not materially affect the race.

Complete immunity may never be attained, for, as individuals must always vary, some must inherit less capacity for acquiring immunity, and so there will remain some mortality as long as the selection, that is, so long as the disease continues, in order to eliminate unfavourable variations.*

Scarlet Fever—1910.

The notification returns for Scarlet Fever for the third quarter of the year were considerably higher than during the corresponding period of last year, and the returns for the last quarter were still higher. The excess up to July was chiefly confined to St. Philip's Marsh, during August and September extended to St. Philip and St. George, and at the end of September invaded Bristol Central.

Several schools were implicated in the spread of infection. These were specially visited and suspicious cases excluded; the school rooms were also cleansed and disinfected. The evidence as to much school infection was not conclusive but a careful watch was kept upon the school notifications.

Contact infection amongst associated children at home was probably chiefly responsible for the spread of infection, coupled with a type of disease leading to "missed" cases, which readily carry and distribute infection. In several cases medical aid was not called in until the children were found to be peeling freely, and these children had, in some cases, been attending school.

The result of the increased prevalence of Scarlet Fever was to throw great strain upon the limited hospital accommodation. To meet this an additional ward at Novers Hill Hospital was opened and extra beds were transferred to Ham Green Hospital.

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* "Hereditary characters and their modes of transmission."
—C. E. WALKER (ED. ARNOLD, 1910).

The number of cases applying for removal to Hospital considerably exceeded the number of available beds. Very rigid selection had to be exercised in removal. At one time 48 applications were received when there was not a vacant bed at the Hospitals. At ordinary times selection generally ensures the removal of most or all cases where home-isolation is quite impossible ; but under the circumstances existing during this outbreak the more stringent selection for removal resulted in leaving a good many cases at home under conditions which practically ensured the spread of infection.

The pressure of Scarlet Fever also limited the available Diphtheria accommodation, and thus tended to lessen the value of the Hospitals in more than one direction.

Scarlet Fever—School Incidence.

In February, owing to the occurrence of Scarlet Fever at Hannah More Schools, four cases in one week having been reported, a medical inspection of the affected classes was made on 8th February.

On 9th February a medical inspection was made of the scholars of four classes at St. Philip's Council School, and three children were found to be in attendance who were peeling, and were excluded.

On 11th February a medical inspection was made of the scholars attending the Infants' department of St. Matthew's School, and two children were found to be peeling—these children were excluded and the school Medical Officer advised. On 20th April a further medical inspection was made, owing to the recurrence of Scarlet Fever, but no further suspicious cases were found.

On 21st April a medical inspection was made of the scholars attending Wick Road School, four cases of Scarlet Fever having been notified amongst the scholars between 12th and 19th April. The children in the class specially affected were examined but no suspicious cases were found.

On 2nd May a medical inspection was made of the scholars attending certain classes in the Infants' department of Ashley Down School, four cases of Scarlet Fever having been notified between April 15th and 29th. One child who was found to have slight peeling on hands was excluded.

On 2nd June a medical inspection was made of the scholars attending Stoke Bishop School, eight cases of Scarlet Fever having been notified of children attending this school between May 27th and 30th. A girl was found to have been attending school who had had a rash between 12th and 19th May, and who was found, on examination, to be peeling on hands, legs and feet—a sister of this child, who slept with her, was also in attendance—both these children were excluded.

On 17th June, owing to the occurrence of several cases of Scarlet Fever in the St. Philip's Marsh district, a medical inspection of the scholars attending St. Silas School was made—no suspicous cases were found to be in attendance, and the outbreak seemed to be a missed or minimal case district infection. The disease continued to be present in this district up to the end of the year.

On 21st June, seven cases of Scarlet Fever having been notified among scholars attending Sefton Park Junior School, a medical inspection was made of the scholars in the affected classes, and a child was found attending one class who had slight desquamation on hands and feet—the child was excluded. The outbreak was, however, probably a district and not a school infection.

On 21st September, owing to 12 cases of Scarlet Fever having been notified between 6th and 15th September, a medical inspection was made of the scholars attending Emmanuel School—no suspicious cases were found. On 12th October a further examination was made—no suspicious cases were found.

On 28th September a medical visit was paid to Redfield School, owing to 19 cases of Scarlet Fever having been notified between September 2nd and 28th—no special incidence of any class infection was noted, but the head teachers of the various departments were advised to keep a careful watch for any signs of rough skin, sore throats, &c.

A visit was also paid to Summerhill School, 11 cases of Scarlet Fever having been notified between September 2nd and 28th. A medical inspection of the children who had been absent in a certain class was made, and one child who had been absent about three weeks to 21st September was found to have some scaly circular peeling round knees and hands, also near elbows—no doctor had been in attendance—a sister had been absent since 20th September and another sister had been absent one day (20th) with sick headache. Exclusion of these three children was advised.

On 21st October a medical inspection was made of the scholars of four classes in the Infants' and Girls' departments of St. Nicholas R.C. School, owing to 13 cases of Scarlet Fever having been notified between September 5th and October 14th, and a child was found to be in attendance in the Infants' department who was peeling on hands—the child was excluded.

On 24th October, owing to seven cases of Scarlet Fever having been notified among scholars attending St. Matthew's School (Infants' department), all in one classroom, a medical inspection of the scholars present was made—no suspicious cases were found.

On 2nd November a medical inspection was made of the scholars in certain classes of Castle Green School, owing to 16 cases of Scarlet Fever having been reported between 22nd September and 30th October among scholars attending this school. Four children in attendance were found with sore throats, but no rash was noticed.

Enteric Fever (Typhoid Fever).

During the year 1910, 85 cases of Enteric Fever were notified, and 9 deaths occurred, giving a case mortality of 10 per cent.

The prevalence and fatality from this disease for twenty-one years past is here shown :—

ENTERIC FEVER.

	1	2	3	4	5
Years.	Cases Notified.	Attacks per 100,000 Living.	Deaths.	Deaths per 100,000. Living	Case Mortality per Cent.
1890*[2]	122	55	33	14	27·0
1891	116	52	23	10	19·6
1892	135	60	18	8	13·3
1893	122	54	26	11	21·3
1894	90	39	21	10	23·3
1895	89	39	22	9	24·7
1896	110	47	20	8	18·1
1897	343	147†	47	20	17·4
1898*	113	35	26	8	23
1899	219	68	35	10	16
1900	293	90	44	13	15
1901	281	85	40	12	14
1902	319	93	58	17	18
1903	134	39	21	6	15
1904‡	172	50	26	7	15
1905	76	21	13	3	17
1906	120	33	21	5	17
1907	74	20	15	4	20
1908	103	27	10	2	9
1909	66	17	12	3	18
1910	85	22	9	2	10

* Extended City † Milk Outbreak introduced from the County.

*[2] Notification commenced February 12th, 1890, so that the case mortality for this year is probably overstated. ‡ City again extended in 1904

No estimate can be made as to the number of cases occurring before 1890, the high figures of 1897 are due to the introduced milk outbreak of that year. In 1897 the City, containing 232,242 people, was extended, and in 1904 contained 343,204 persons, an increase of 110,962 persons. In 1904, a further extension was made. Allowance in columns 2 and 4 is made for the increase of population year by year, and the figures in these columns should be used for comparison. The attack rate fell very considerably in 1903 and 1904 from the high rate of 1902, and the death-rates (Col. 4) for the years 1903 and 1904 were the lowest recorded up to then.

In 1908 the attack rate rose slightly compared with that of 1907, but the number of deaths, the death rate, and the case mortality per cent. are the lowest then recorded.

In 1909 the attack rate was the lowest recorded since Notification began in 1890, but the number of deaths and the death rate rose slightly compared with 1908. The rise in case mortality to 18 per cent. suggests that the type of infection was more severe than in 1908.

In 1910 the attack rate was higher than in 1909, but was lower than in any year except 1909, 1907 and 1905.

The death rate was however the lowest rate recorded, and the case mortality per cent. is the lowest recorded with the exception of the year 1908.

The distribution of the disease in each quarter of the year is shown in the following table, for each Registration Sub-district of the City. The Sub-districts most affected are seen to be Knowle, Bristol Central, and Bedminster.

REGISTRATION. Sub-District.	CASES NOTIFIED.				Year 1910.	Attack Rate per 100,000 living.
	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.		
Ashley	1	3	4	2	10	19
Bedminster	10	3	3	1	17	24
Bristol Central	2	1	1	12	16	43
Clifton	—	2	—	2	4	8
Knowle	7	1	1	2	11	59
S. George	—	1	3	6	10	13
S. Philip	2	1	1	3	7	14
Stapleton	—	2	—	—	2	7
Westbury-on-Trym ..	—	—	—	—	—	-
Municipal Institutions ...	—	1	—	—	1	—
Not belonging to City ...	—	1	2	4	7	—
Total ...	22	16	15	32	85	22

Enteric Fever is admitted for treatment into the Public Institutions, and 72 cases (7 from outside the City) were nursed in the Royal Infirmary, General Hospital, Ham Green Hospital, Children's Hospital, and Stapleton Workhouse, through the year. With the exception of 12 cases nursed at Clift House in 1897, no provision had been made for this disease in the City Hospitals before July, 1899, and cases, if not admitted to the general Hospitals, had to remain at home. There is still insufficient general isolation accommodation to meet any emergency, and this insufficiency has been considerably accentuated by the extension of the City and the consequent great increase in population, as well as by the undertaking to provide for the Guardians' cases, and by the closing (July, 1906) of Clift House Hospital for Diphtheria.

TYPHOID FEVER.

Carrier Case, No. 3—Urinary Type.

History :—Miss L. C——, 32, F. Cook.

July, 1905,	Attack of Typhoid Fever, went home to a farm.
September, 1905,	Sister developed Typhoid Fever at home.
December, 1905,	Father developed Typhoid Fever and died.
December, 1905,	Brother developed Typhoid Fever.
July, 1907,	Sister, home from Canada, developed Typhoid Fever.
July, 1908,	Parlour-maid and housemaid, in a situation where patient was cook, developed Typhoid Fever.
September, 1908,	Kitchen-maid in another situation where patient was cook developed Typhoid Fever.
December, 1908,	Nurse attending patient in hospital, while patient was under voluntary observation, developed Typhoid Fever.
January, 1909,	Admitted to Ham Green City Hospital for observation.

Prof. Walker Hall was entrusted by the Health Committee with the prosecution of research into the possibility of cure, and has presented reports from time to time which have been published in the Annual Report year by year.

University of Bristol,
May 18th, 1911.

Further Report on Carrier Case No. 3.

Investigations upon the Typhoid carrier case have been continued throughout the year. They have resulted in the localising of the source of the Typhoid bacilli in the right kidney of the patient. Surgical exploration of this kidney revealed the presence of small calculi surrounded by minute abscesses. From these abscesses Typhoid bacilli were obtained in pure culture. The removal of the calculi and abscesses was followed by some improvement in the condition and various measures are now being tried in the hope of making the improvement a permanent one.

The results will be published at a later date.

I. WALKER HALL, M.D.,
Prof. of Pathology University of Bristol.
Pathologist to the Bristol Royal Infirmary.

DIPHTHERIA (including Membranous Croup).

During the 52 weeks of 1910, 556 cases and 38 deaths were notified as Diphtheria, giving a death rate of 0·09.

The Diphtheria rate (including Membranous Croup) for the 77 great towns in 1910 was 0·12.

The 38 deaths returned as due to Diphtheria give a case mortality of 6·8 per cent. The case mortality observed in 1894 was 39 per cent. ; much of this difference is apparent only, as large numbers of very mild cases, which in 1894 would have escaped observation, are sought for now by systematic bacteriological examination ; this causes the figures as to case mortality to be somewhat misleading. But the case-mortality of the years 1901-2-3 may more properly be compared with that for this year, and the diminution indicates, as I believe, the joint effect of decline in the virulence of the infection since these years of chief prevalence, and immunisation of the susceptible population through the wide diffusion of attenuated forms of the bacillus.

The 38 deaths from Diphtheria and Membranous Croup correspond to a death-rate from these causes of 9 per 100,000 living, which is the lowest rate recorded since 1891, compared with a rate of 14 in 1909, 18 in 1908 and 1907, 22 in 1906, 16 in 1905, of 30 in 1904, of 35 in 1903, and of 54 in 1902.

The attack rate 145, is the lowest recorded since 1899, and the case mortality per cent 6·8 is the lowest recorded with the exception of the rate of 5·7 in 1905, since notification began in 1890.

Diphtheria (including Membranous Croup) for 21 years.

	1	2	3	4	5
Years	Cases Notified	Attacks per 100,000 Living	Deaths	Deaths per 100,000 Living	Case Mortality per Cent.
1890*[2]	56	25	16	7	28·5
1891	70	31	16	7	22·8
1892	106	47	38	16	35·8
1893	141	59	53	23	37·5
1894	128	56	50	22	39·0
1895	165	69	34	14	20·6
1896	258	111	38	16	14·7
1897	205	88	36	15	24·7
1898*	217	68	44	13	20·2
1899	215	67	33	10	15·3
1900	512	157	103	31	21·1
1901	908	275	124	37	13·6
1902	1,109	325	189	51	17·0
1903	1,134	331	119	35	10·4
1904‡	1,051	305	105	30	9·9
1905	1,021	281	59	16	5·7
1906	839	231	82	22	9·7
1907	926	251	68	18	7·3
1908	924	243	69	18	7·4
1909	712	188	55	14	7·7
1910	556	145	38	9	6·8

* Enlarged City. ‡ City again extended in 1904.

*[2] Notification commenced February 12th, 1890.

Diphtheria—Showing incidence of Cases and Deaths on the Sub-Districts of Bristol, 1910.

Incidence Rate per 100,000 Population.	Cases.	Registration Sub-District. Population.	Deaths.	Death Rate per 100,000 Population.
127·0	64	Ashley 50,361	6	11·9
116·7	81	Bedminster 69,389	5	7·2
150·8	56	Bristol Central 37,110	5	13·4
145·7	68	Clifton 46,647	5	10·7
119·3	22	Knowle 18,430	—	—
145·2	104	S. George 71,591	8	11·1
147·0	73	S. Philip 49,653	4	8·0
151·7	42	Stapleton 27,676	5	18·0
153·9	18	Westbury-on-Trym 11,693	—	—
—	25	Arising in Municipal Institutions	—	—
—	3	Not belonging to Boro'	—	—
145·3	556	**City** 382,550	38	9·9

Diphtheria—Notifications in each Quarter in the Sub-Districts of Bristol, 1910.

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.
Ashley	23	7	8	26	64
Bedminster	20	23	13	25	81
Bristol Central	10	16	14	16	56
Clifton	13	19	18	18	68
Knowle	5	4	3	10	22
S. George	24	30	17	33	104
S. Philip	18	20	15	20	73
Stapleton	16	5	14	7	42
Westbury-on-Trym ..	3	5	3	7	18
Arising in Municipal Institutions	10	3	8	4	25
Not belonging to Boro'	1	2	—	—	3
CITY	143	134	113	166	556

The Health Committee during the year have supplied 318,000 units of Diphtheria antitoxin free to Medical Practitioners upon application, for 71 patients whose parents were certified as unable to afford to pay for this.

Laboratory Examinations in Diphtheria and Enteric Fever.

	Diphtheria.	Enteric Fever.	Total.
1895	87	—	87
1896	206	—	206
1897*	379	254	633
1898	390	127	517
1899	485	290	775
1900	915	452	1,367
1901	2,527	425	2,952
1902	3,771	420	4,191
1903	5,545	240	5,785
1904*[2]	6,858	308	7,166
1905	6,469	161	6,630
1906	4,738	219	4,957
1907	6,549	166	6,715
1908	5,003	172	5,175
1909	4,118	138	4,256
1910	3,113	172	3,285

* City enlarged in November, 1897.
*[2] City enlarged in October, 1904.

In November, 1902, this work, which had for seven years been voluntarily undertaken by the Medical Officer of Health, was transferred to University College, Bristol, and in 1906 was transferred to the City Analyst.

Of the 3,285 bacteriological examinations made during 1910, 1,580 were of suspected cases of Diphtheria, of which a positive result was obtained in 421, 485 showed suspicious organisms, and 674 gave a negative result ; 1,533 control examinations to determine recovery, of which a positive result was obtained in 480, 496 showed suspicious organisms, and 557 gave a negative result; 172 were of suspected cases of Enteric Fever, a positive result was obtained in 51, and two gave doubtful reactions.

Diphtheria—School Incidence.

On 22nd February, owing to the occurrence of Diphtheria among children attending Chester Park School, a medical inspection of the scholars in the affected classes was made—no suspicious case was found and no further cases were reported.

On 9th March, owing to two fatal cases of Diphtheria having occurred in one family amongst children attending Westbury Park School, a medical inspection was made of the scholars in the affected classes—no cases were found but several of the children had suspicious organisms in their throats or noses, which required treatment.

On 10th May a medical inspection was made of the children attending the Infant department of St. Michael's School, 17 of the children were examined bacteriologically, but no positive case was found, although 11 had suspicious organisms in throats or noses or both.

On 14th June a medical inspection was made of the scholars attending one of the classes in the Infants' department of Greenbank School, six cases of Diphtheria having been notified of scholars attending this class, between May 23rd and June 10th ; 18 of the children were examined bacteriologically and in four Diphtheria bacilli were found to exist in throats or noses or in both ; these children were excluded from school ; and 10 showed suspicious organisms.

On 20th June a further medical inspection was made, and of 14 children examined bacteriologically, two were found to have Diphtheria organisms present in throat and nose, and 11 showed suspicious organisms.

During the month of December an outbreak of Diphtheria occurred amongst the children at No. 5 New Orphan Houses, Ashley Down, 15 cases occurring during the month—the outbreak continued during the months of January and February, and the last case was reported on March 17th ; in all 45 cases were notified.

The following revised Memorandum has been issued :—

Antitoxin in Diphtheria.

The importance of **early dosage** cannot be over-estimated, a delay of a few hours in administration of Antitoxin may make a serious difference to the patient ; if every case could be treated **on the first day of illness and kept at rest for three weeks,** very favourable results would follow.

If the Clinical symptoms warrant the clear suspicion of Diphtheria, do not await the result of a Culture, but adminster a full dose of Antitoxin at once.

If the diagnosis is clinically certain, notify at once (by telephone if necessary), specifying urgency if removal is required. A Culture which should always be taken, can be dealt with later. Written Notification must also be forwarded.

DOSAGE.

The following Rules should be followed, having regard to the type of Diphtheria at present in the City.

The minimum Therapeutic dose should be taken as 4,000 units, irrespective of age ; diphtheria is more severe in young children, so that large doses are necessary, and may be administered without ill effect.

In all cases showing definite evidence of Diphtheria the doses should be :—

On first day of illness ..	4,000 units
,, second ,, ...	6,000 ,,
,, third or later	8,000 ,,

In the more severe cases the maximum dose **should be repeated** every 12 hours until the membrane begins to separate.

In less severe cases the interval may be prolonged to 24 hours.

In mild cases seen on the first or second day, one dose may be sufficient.

The administration of **a sufficient dose** of Serum at an early date greatly reduces the risk of severe paralysis during convalescence.

D. S. DAVIES, M.D.,
Medical Officer of Health.

B. A. I. PETERS, M.B.,
Resident Medical Officer,
Ham Green Hospital.

Public Health Offices.
40 Prince Street, Bristol.
March, 1911.

Comparative Table showing Diphtheria Mortality.

(*From the Registrar General's Annual Summary.*)

	Death Rates from Diphtheria per 100,000 Living.										
	10 years' Average 1890-99,	5 years' Average 1905-09	1902	1903	1904	1905	1906	1907	1908	1909	1910
*76 Towns ..	—	17	26	20	19	16	19	17	16	15	12†
33 Towns ..	33	—	—	—	—	—	—	—	—	—	—
London	49	14	25	16	16	12	15	16	15	13	9
West Ham	51	22	46	26	15	26	29	24	17	13	15
Croydon	29	22	21	12	17	16	27	27	24	15	11
Brighton	20	9	28	26	12	4	9	12	7	15	2
Portsmouth ..	23	29	34	39	36	34	29	29	23	31	26
Plymouth	13	15	13	13	12	15	18	13	12	15	9
Bristol	**14**	**17**	**54**	**35**	**30**	**16**	**21**	**17**	**17**	**14**	**10**
Cardiff	40	10	52	20	18	13	7	12	11	7	12
Swansea	33	10	25	22	25	20	7	12	4	6	16
Wolverhampton	35	22	20	9	18	18	23	26	30	11	4
Birmingham ..	24	18	24	26	24	17	18	18	19	16	11
Norwich	21	24	9	11	7	20	25	38	21	15	14
Leicester	27	7	15	13	3	5	13	7	3	6	4
Nottingham ..	8	14	12	26	28	19	16	16	11	19	11
Derby	11	33	10	3	25	19	50	42	28	26	17
Birkenhead	23	19	24	10	24	28	23	20	11	15	19
Liverpool	20	18	30	23	27	21	20	15	17	15	13
Bolton	10	11	25	21	16	10	12	12	10	9	15
Manchester	21	18	21	24	17	20	19	16	18	17	14
Salford	34	40	33	38	49	36	39	31	51	44	21
Oldham	15	12	33	39	25	9	12	13	15	10	6
Burnley	26	15	45	20	12	19	14	14	12	14	16
Blackburn	12	16	17	20	8	24	19	13	9	15	16
Preston	12	12	24	18	20	16	14	10	9	9	14
Huddersfield ..	13	13	13	15	15	11	14	8	9	21	16
Halifax	15	25	8	9	16	26	39	26	11	24	21
Bradford	8	19	30	19	57	28	21	15	14	17	13
Leeds	23	13	21	15	10	10	18	14	9	13	14
Sheffield	29	12	27	9	11	13	19	12	8	8	8
Hull	12	30	35	31	25	30	52	25	18	23	17
Sunderland	7	21	10	21	18	20	22	27	17	20	13
Gateshead	13	20	10	10	12	16	28	25	20	12	8
Newcastle	18	19	10	17	22	19	24	19	12	19	14

* The Registrar General now gives the rates for 76 of the large towns, and these rates are no longer comparable with the previously given rates for the 33 largest towns.

† Rate for the 77 large towns.

Cholera—Choleraic Diarrhœa—Plague.

No suspicious cases were introduced.

Diarrhœa—Infantile Diarrhœa.

The number of deaths returned as due to Diarrhœal diseases during the year was 76 compared with 116, 154, 133, 213, 169, 206, 107, 165 and 345 fatal cases recorded in the previous nine years. Of the 76 deaths, 54 occurred in children under one year of age, 10 at ages one to five, two at ages 5 to 15, two between the ages of 25 and 65, and eight in persons aged 65 and upwards. These deaths give a Diarrhœa death-rate of 0·19 per 1,000 living. This rate is the lowest recorded in the City.

Comparative Table showing Diarrhœa Mortality.

(*From the Registrar General's Annual Summary*).

	Death Rates from Diarrhœa per 100,000 living.										
	10 years' Average 1890-99.	5 years' Average. 1905-1909.	1902	1903	1904	1905	1906	1907	1908	1909	1910
*76 Towns.	—	68	54	71	120	83	116	40	65	38	38†
33 Towns.	96	—	—	—	—	—	—	—	—	—	—
London	74	57	54	64	104	73	94	32	53	33	28
West Ham...	89	116	85	111	208	159	188	66	100	65	38
Croydon	59	39	49	28	64	33	96	42	31	12	13
Brighton	81	34	39	40	43	37	55	33	22	21	39
Portsmouth .	95	55	80	59	108	86	111	29	26	25	25
Plymouth ...	73	53	45	49	102	80	72	34	48	31	33
Bristol	**63**	**37**	**38**	**28**	**51**	**36**	**54**	**32**	**34**	**27**	**19**
Cardiff	87	48	27	46	72	32	79	34	63	32	36
Swansea	42	68	49	48	77	46	82	52	78	84	32
Wolv'rh'mpt'n	137	76	78	90	165	128	132	49	44	29	18
Birmingham	123	82	71	111	176	83	158	43	80	45	39
Norwich	100	80	63	75	118	119	155	46	39	41	22
Leicester	152	66	59	60	131	93	113	31	50	43	29
Nottingham .	111	85	72	68	137	76	152	63	64	69	35
Derby	76	39	42	38	68	61	53	20	34	26	10
Birkenhead .	83	85	60	118	154	101	175	31	76	40	69
Liverpool ...	132	108	94	98	252	135	179	73	84	70	71
Bolton	138	76	39	90	94	105	115	41	85	33	37
Manchester .	129	91	53	89	137	115	153	50	92	43	49
Salford......	154	91	64	98	166	121	144	44	98	50	52
Oldham	70	79	31	42	91	72	119	53	114	36	51
Burnley	134	125	59	140	201	137	201	69	159	58	113
Blackburn ..	131	64	40	52	81	64	107	28	85	35	47
Preston	211	102	144	103	143	132	196	54	97	33	99
Huddersfield	41	47	19	26	51	44	90	22	54	26	32
Halifax	32	20	21	16	34	25	30	18	16	12	14
Bradford ...	91	48	18	51	83	50	93	17	65	16	33
Leeds	109	61	60	63	99	79	97	38	67	23	39
Sheffield	135	113	56	127	135	152	171	99	87	55	67
Hull	145	104	41	125	208	128	161	37	136	57	93
Sunderland .	123	67	49	60	109	83	108	45	66	33	50
Gateshead ..	107	80	37	91	113	68	162	37	98	34	53
Newcastle-on-Tyne	73	48	26	58	51	58	103	14	46	20	36

* The Registrar General now gives the rates for 76 of the large towns, and these rates are no longer comparable with the previously given rates for the 33 largest towns.

† Rate for the 77 large towns.

Erysipelas.

During the year 1910, 177 cases of Erysipelas were notified, and seven deaths were returned, compared with 199 cases and three deaths in 1909.

Puerperal Fever.

Thirty-nine cases of Puerperal Fever were notified, compared with 36 last year. Fourteen cases proved fatal, compared with 23 in 1900, 17 in 1901, 17 in 1902, 14 in 1903, 16 in 1904, 6 in 1905. 14 in 1906, 11 in 1907, 7 in 1908, and 17 in 1909.

Typhus Fever.

No case of Typhus Fever was notified in the City during the year. This disease disappeared when Registration of Common Lodging Houses and control of gross insanitary conditions were taken in hand in the sixties and seventies of last century.

Measles.

The deaths from Measles in the City in 1910 numbered 32 compared with 90 in 1909, 96 in 1908, 36 in 1907, 140 in 1906, 180 in 1905, 94 in 1904, 11 in 1903, 411 in 1902, with 7 in 1901, with 200 in 1900, and 38 in 1899. These fluctuations are characteristic of Measles prevalence in large centres of population.

Of the 32 deaths, 31 occurred in children under 5, and one between the age of 5 and 15.

In the first quarter of the year 25 deaths occurred, 4 in the second, 2 in the third and 1 in the fourth quarter.

The relative fatality for a period of 10 years in the City of Bristol from various diseases is here shown, and Measles is found to occupy a most prominent place amongst the causes of mortality.

	1901-1910—Deaths.
Diarrhœa	1419
Measles	1097
Whooping Cough	979
Diphtheria	909
Scarlet Fever	313
Enteric Fever	225
Small-pox	15
Typhus Fever	0

Whooping Cough.

The deaths from Whooping Cough in the City numbered 66, compared with 56 in 1909, 128 in 1908, 35 in 1907, 102 in 1906, 123 in 1905, 110 in 1904, 65 in 1903, 105 in 1902, 189 in 1901, and 54 in 1900.

Thirty-six of the deaths occurred in children under one, 29 at the ages of one to five, and one at age five to fifteen.

In the first quarter of the year 15 deaths occurred, 16 in the second, 14 in the third, and 21 in the last quarter of the year.

The disease was most fatal in Bedminster (20), S. Philip (14), and S. George (11).

The mortality in this disease is largely due, as in the case of Measles, to the want of care exercised during the course of the illness to avoid exposure to inclement weather. It bears a similar relation to school attendance as in the case of Measles, and is very fatal at ages under five.

Influenza.

This disease was credited with 43 deaths during 1910, compared with 27 in 1909, 73 in 1908, 55 in 1907, 47 in 1906, 54 in 1905, 27 in 1904, 33 in 1903, 56 in 1902, 65 in 1901, and 53 in 1900.

Influenza was returned as a cause of death chiefly during the first quarter of the year, and the figures for the four quarters are 26, 12, 1, and 4 respectively.

Cerebro-Spinal Fever.

Three deaths were returned as due to this disease during the year.

Dr. George Parker has kindly supplied the following abstract of a paper read at the Bristol Medical Chirurgical Society, on 11th January, 1911:—

EPIDEMIC INFANTILE PARALYSIS*
(Anterior Polio-myelitis).

Very few outbreaks of the epidemic form of this disease have been recorded in Great Britain, though they have been numerous during the last ten years both on the Continent and in the United States. In 1908 indeed W. W. Treves met with a group of eight cases, and in 1910 another group of 13 or more were found near Maryport.

In Bristol from June, 1909, to the end of January, 1910, thirty seven cases were met with, the great majority during the summer months (32 by the end of October) but a few continued to appear till past mid-winter. The age of the patients varied from four months to 16½ years, and omitting adolescents the average was just two years. There were 24 males and 13 females. No abortive cases without paralysis were included, and it is possible some cerebral and other irregular cases escaped notice, as attention was not directed to Poliomyelitis at the time.

Two patients died, *i.e.*, a mortality of nearly six per cent. Most of the cases showed a febrile stage. In about a quarter there were "rheumatic" pains, and in two cases retraction of the head was noticed. Facial Paralysis occurred in one case, Tonsillitis in two, and in three there were "symptoms of measles." Pulmonary troubles occurred in several children. In one child a rigidly flexed knee was an early symptom. Seven were paralysed with little or no warning while in perfect health. Nothing was discovered as to the mode by which the disease was conveyed from patient to patient. Thirty-four children were living in urban districts, but rarely was any contact traced. In one family of eight children, indeed, a boy was severely attacked and the next day a sister (who had previously been suffering from some bronchial trouble) was also struck down by Paralysis. In view of the long duration of infection which some writers claim, it may be noted that two cases, who had lived a few doors apart, were attacked, one in July and one in November. Two others who were living close together were attacked in September and December.

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* *Cf.* "British Medical Journal," March 18th, 1911.

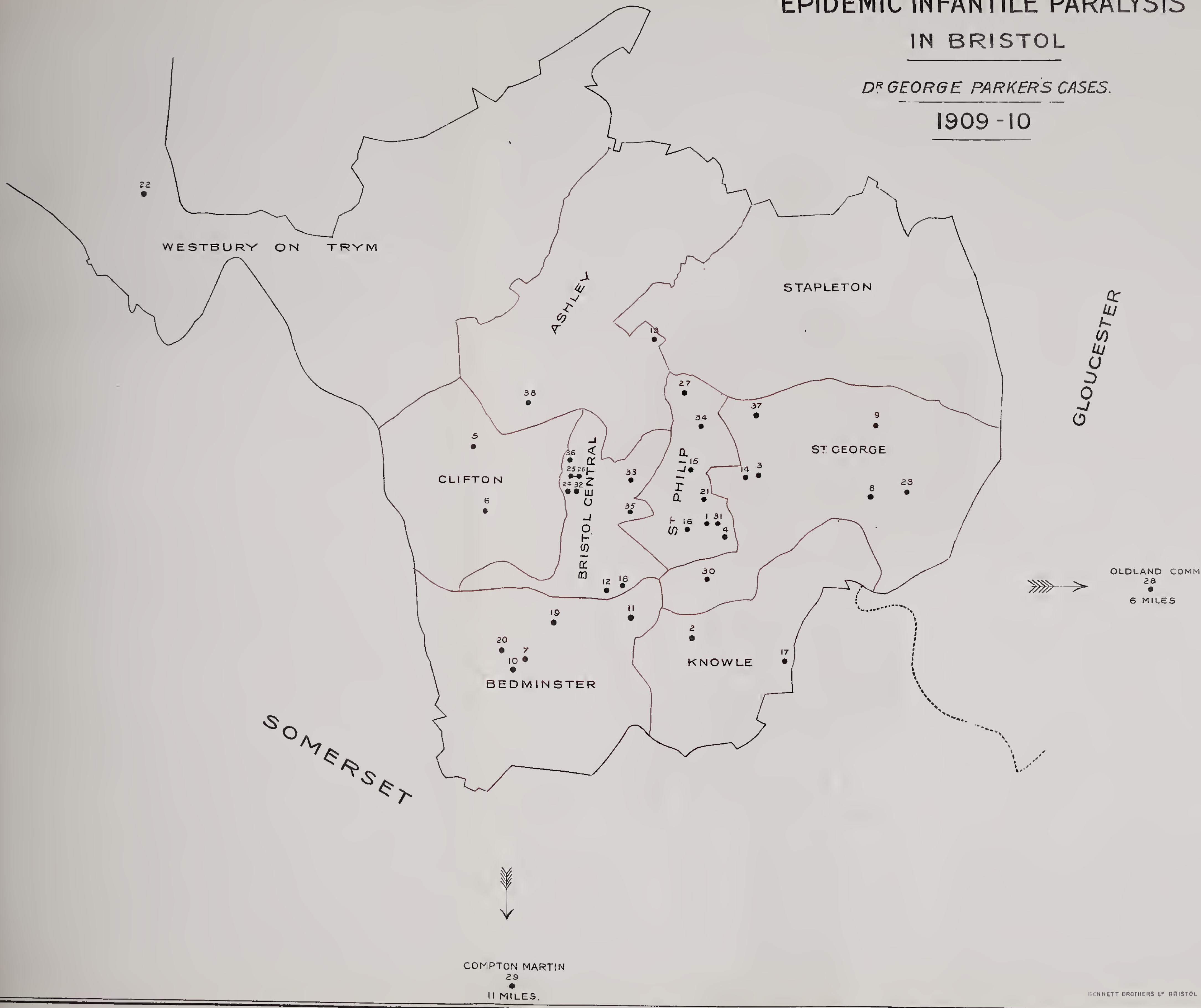
Numerous cases of Herpes Zoster were noticed in the City at the time. Through sporadic cases of Infantile Paralysis are frequently observed in the district, thirty-seven cases in seven months may well be regarded as an epidemic outbreak.

The accompanying map shows the distribution of cases in the City.

EPIDEMIC INFANTILE PARALYSIS IN BRISTOL

D^r GEORGE PARKER'S CASES.

1909 - 10



BENNETT BROTHERS L^D BRISTOL

TUBERCULOSIS.

PHTHISIS (PULMONARY CONSUMPTION).

The fatality of Pulmonary Phthisis and of other Tubercular diseases, in comparison with that from the seven principal Zymotic diseases is shown here for fifteen years:—

Year.	Phthisis.	Other Tubercular Diseases.	Seven Principal Zymotics.
1896	370	129	435
1897	302	136	430
1898	393	178	851
1899	430	180	582
1900	415	145	606
1901	401	139	530
1902	415	162	942
1903	366	154	375
1904	413	144	578
1905	407	152	583
1906	404	137	585
1907	384	114	314
1908	397	140	467
1909	391	133	350
1910	354	129	233

Phthisis is thus shown to be a serious cause of mortality, leading in some years to as many deaths as the seven principal Zymotic (or chief epidemic) diseases ; but the rates in the next table show that the death rate from this disease has steadily declined since 1840, and is still declining :—

City of Bristol—PHTHISIS.

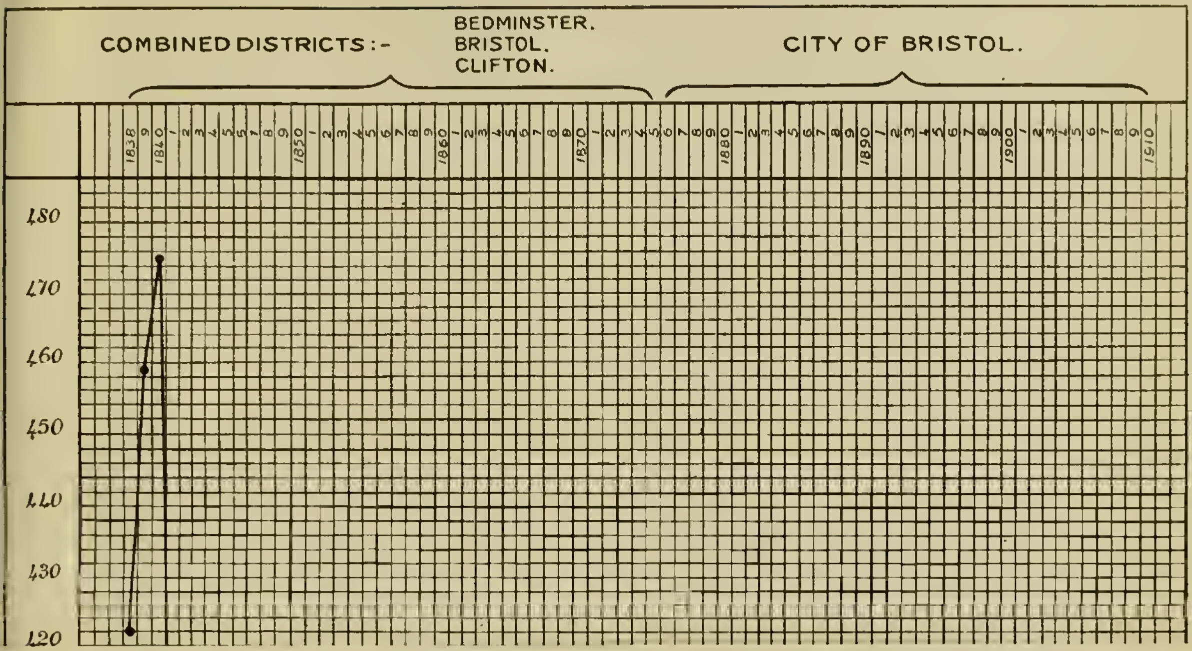
Year.		Population.	Total Deaths.	Rate per 100,000 Population.
Combined Districts:— Bedminster, Bristol, Clifton.	1838	Census, 1831. 139,818	590	422
	1839		643	459
	1840		665	475
	1841	Census, 1841. 166,327	597	358
	1842		550	330
	1843		634	381
	1844		553	332
	1845		560	336
	1846		582	349
	1867		510	306
	1848		560	336
	1849		536	322
	1850		488	393
	1851	Census, 1851. 181,799	478	262
	1852		506	278
	1853		587	322
	1854		479	263
	1855		498	273
	1856		490	269
	1857		527	289
	1858		523	287
	1859		550	302
	1860		481	238
	1861	Census, 1861. 201,971	524	259
	1862		488	241
	1863		477	236
	1864		523	258
	1865		512	253
	1866		564	279
	1867		535	264
	1868		498	246
	1869		527	260
	1870		583	238
	1871	Census, 1871. 244,591	579	236
	1872		567	231
	1873		535	218
	1874		524	214
	1875		528	215
	1876	195,338	401	205
	1877	197,395	410	207
	1878	199,879	435	217
	1879	202,400	404	199
	1880	204,942	367	179
	1881	207,299	341	164
	1882	208,007	405	194
	1883	209,522	426	203
	1884	211,048	410	194
	1885	212,586	413	194
	1886	214,134	477	185
	1887	215,694	332	153
	1888	217,266	333	153

PHTHISIS—Continued.

Year.	Population.	Total Deaths.	Rate per 100,000 Population.
1889	218,848	326	148
1890	220,442	413	187
1891	222,049	382	172
1892	223,592	372	166
1893	225,028	363	161
1894	226,578	332	146
1895	228,139	317	138
1896	230,626	320	138
1897	232,242	302	130
1898	316,900	393	124
1899	320,911	430	134
1900	324,973	415	127
1901	329,086	401	121
1902	334,632	415	124
1903	338,895	366	108
1904	343,204	413	120
1905	358,505	407	113
1906	363,223	404	111
1907	367,979	384	104
1908	372,785	397	106
1909	377,642	391	103
1910	382,550	354	92

PHTHISIS

CITY OF BRISTOL DEATH RATES PER 100.000 POPULATION.



Municipal Action for the Control of Tuberculosis.

A. PAMPHLET ADVICE.

The first definite action was taken in 1891, when a pamphlet of Instructions for Patients, based on the New York Regulations, was issued, this was reprinted in 1892, 1893 and 1894, and was re-issued in 1899. In 1904, by direction of the Council, 80,000 copies of a revised pamphlet were issued, as far as possible, to every house in the City.

B. SPUTUM FLASKS.

In this year also, Sputum Flasks were issued, first by the St. John's Ambulance Brigade, later (in 1906) by the Health Committee :—

Year.	No. of Flasks provided.	Bottles of Disinfectant Solution.
1904	—	13
1905	—	79
1906	21	562
1907	46	375
1908	35	499
1909	29	687
1910	46	720

C. REGULATIONS AGAINST SPITTING.

In 1903 the Bristol City Council adopted the following Bye-Law :—

> " A person shall not spit on the floor, side or wall
> " of any Public Carriage, or of any Public Hall,
> " Public Waiting-room, or Place of Public Enter-
> " tainment, whether admission thereto is obtained
> " upon payment or not. Any person offending
> " against this Bye-Law shall be liable to a fine not
> " exceeding £1."

Copies of this Bye-Law have been widely distributed.

D. NOTIFICATION.

Voluntary notification was adopted by the City Council, and came into force on September 7th, 1905. Compulsory notification, under the Public Health (Tuberculosis) Regulations, in regard to Poor Law cases came into force in 1908.

TABLE SHOWING NOTIFICATION RETURNS.

Year.	Voluntary.	Poor Law (Compulsory).	Total.
1905	330		330
1906	703		703
1907	542		542
1908	516		516
1909	395	173	568
1910	361	174	535

Enquiries are made by the District Inspectors into all cases unless specially exempted, and disinfection of premises or articles is secured wherever possible with consent.

E. DISINFECTION CARRIED OUT IN HOUSES OF PHTHISIS CASES.

Year.	ROOMS.		BEDDING, ETC.	
	After Notified Cases.	After Fatal Cases.	After Notified Cases.	After Fatal Cases.
1905	49	218	36	134
1906	293	250	137	162
1907	195	214	90	110
1908	211	210	119	136
1909	224	228	132	148
1910	222	200	128	124
Totals	972	1120	534	690

F. NOTIFICATION OF CHILDREN ATTENDING SCHOOL.

(Number attending Schools, 1910—60,468).

Year.	Male.	Female.	Total.
1905		15	15
1906	17	27	44
1907	11	23	34
1908	10	10	20
1909	8	6	14
1910	11	10	21

G. SANATORIUM PROVISION FOR EARLY CASES.

The Corporation have acquired and maintain 20 beds in Winsley Sanatorium. The Sanatorium was opened in December, 1904, and the first Bristol patient was admitted on February 27th, 1905.

The total applications for admission received in the six years, 1905–1910, have been :—

Males	..	600
Females	..	419
		1,019

and up to the end of 1910, 421 applicants gained admission, and 598 were unable to be admitted, either through lack of room, or because the cases were too far advanced.

H. AFTER HISTORY (Condition on Jan. 1st, 1911).

The after-history of Winsley cases has been carefully followed up, and it appears that, up to the end of 1910, of 333 patients discharged from the Bristol maintained beds :—

127 Died.
79 Could not be traced.
128 were alive of whom
    100 maintained working capacity,
    28 were not able to work.

Assuming that one half (40) of those who could not be traced needed further treatment upon discharge, as did those 127 who subsequently died, and the 28 who, though alive, were unable to work, we obtain a total of 195 in five years, or an annual figure of 37 suitable candidates for after treatment upon a Farm Colony or similar institution.

In addition to these 37, about 100 applicants are rejected yearly, so that there is obviously need for consideration as to the sufficiency of the present means at the disposal of the Corporation.

The provision of Sanatorium treatment for early cases is a most important special means of dealing with Tuberculosis ; its influence is far reaching, as it not only benefits the actual patient but spreads practical knowledge as to the proper home-treatment of such cases, and is thus widely educational.

I. ADVANCED CASES.

Supposing the above number of cases to be provided for by treatment at Winsley or on Farm Colonies, there would yet be a number of cases of a more advanced character needing attention. It is difficult to estimate the exact number of such cases, but there is little doubt that 150 beds could thus be usefully employed.

Newsholme has advanced the view that the segregation of advanced cases is of the utmost importance as a preventive measure, and that in the improved and more general institutional treatment of such cases we have the means ready to hand from which the greatest quickening of the rate of decline of the death rate from this disease can be expected.

A certain amount of provision for advanced cases is already made by the Bristol Guardians at Stapleton and Eastville Workhouses, and further provision in this direction is contemplated.

It is generally held that such accommodation should preferably be provided in some institution distinct from the Workhouse buildings, so that the taint of pauperism which hinders many self-respecting workers from taking advantage of isolation, may be avoided.

J. Pathological Diagnosis.

Arrangements have been in force from 1904 onwards for the bacterial diagnosis of Tuberculosis at the expense of the Health Committee.

Year.	Examination of Sputum.	Positive Results.
1904	6	
1905	167	79
1906	621	196
1907	592	169
1908	616	174
1909	692	205
1910	716	209

K. CONTROL OF MILK SUPPLIES.

A special Inspector of Dairies, Cowsheds and Milkshops has been appointed since 1890, and deals with the whole area of the enlarged City (17,289 acres).

Dairy Regulations are in force, giving powers of inspection and control for Dairies, etc., within the City.

In the Bristol Corporation Act, 1905, provisions are inserted placing penalties upon any person knowingly selling Tuberculous milk within the City, neglecting to segregate a Tuberculous cow, or failing to send notice to the Medical Officer of Health that he has a Tuberculous cow; and giving power to the Medical Officer of Health to take within the City samples of milk, also outside the City, after obtaining a Justice's order; and to inspect, with the aid of a Veterinary Surgeon, cows in any dairy within the City for Tuberculosis of the udder, and powers for dealing with dairies within or without the City suspected of causing Tuberculosis in persons residing within the City.

In 1899 an examination for Tuberculosis was made of milk from all farms supplying the City, and out of 74 samples examined by the inoculation test, four showed the presence of Tuberculosis. A re-examination on similar lines has recently been authorised by the Health Committee.

Milk contracts for the City Hospitals are framed on lines protective against Tuberculosis.

L. MEAT SUPPLIES.

There are 101 Private Slaughter Houses in the City (63 with permanent licences and 38 with annual licences). Two Meat Inspectors are employed in inspecting these premises.

In all meat contracts for the City Hospitals a clause is inserted that the whole of the meat supplied shall be from animals free from Tuberculosis or any other disease.

Examination of all cargoes of imported Foodstuffs is now in force under the Public Health (Regulations as to Food) Act, 1907, and a specially qualified Inspector has been added to the Port Staff for this purpose.

M. HOUSING CONDITIONS—OVERCROWDING.

The local Regulations in force provide as follows :—

BYE-LAWS.	Cubic feet
Common Lodging Houses—	
Sleeping rooms (2 children under 10 equal to 1 lodger)	300
Houses let in lodgings—	
Room used exclusively as sleeping room	300
Room not used exclusively as sleeping room	400
Workshops (Factory & Workshop Act, 1901, and subsequent Orders of Secretary of State), For each employé	250
Ditto, during overtime, or used for sleeping places	400
Underground Bakehouses—during overtime	500

Two Inspectors of Workshops have since 1897 given special attention to these places. One of them is now transferred to a District.

Lodging Houses and Bakehouses are controlled by a special Inspector, and recently a special Inspector has been appointed for tenement houses.

The recent provisions of the Town Planning Act, 1909, require further and more regular and complete inspection and control over housing of the poor, and Regulations have already been issued for ensuring the systematic exercise of such control.

The Act itself provides that, in the case of houses or parts thereof, the rent of which does not exceed £26, the condition is implied that at the time of letting they are reasonably fit for habitation, and that they will be kept fit throughout the holding.

On October 21st, 1910, the Health Committee asked for a special report as to the causation and incidence of Tuberculosis in the City, and as to the possible and best method of preventing and treating the disease.

I accordingly prepared a Report, subsequently printed and circulated, dealing first with the general facts as to causation and transmission of the disease, and secondly with the steps already taken in the City to deal with the question.

It appeared from considerations brought forward in this report that there are roughly about 2,000 cases of Tuberculosis of the Lungs (Phthisis—Consumption) in the City ; and incidentally that the Sanatorium and hospital provision at present available, though on the right lines, is inadequate.

In considering desirable lines for more effective dealing with Tuberculosis, the excellent work already achieved in Edinburgh by the Anti-tuberculosis Dispensary, established for some years in connection with the Victoria Hospital by Dr. R. W. Philip, arrested attention, and the establishment of such an Institution demands careful consideration.

Anti-Tuberculosis Dispensaries or Clinics.

The Medical Advisory Committee of the Charity Organisation Society has recently issued a report dealing with the after-history of 479 patients sent from time to time to different Sanatoriums and treated therein for various periods, from a few weeks to six months.

*All these patients were kept in view and visited during the eight years from 1902–1910 inclusive, in order to ascertain their capability for work. Down to the end of 1910 it was found that 53 per cent. of these patients were either at work or were fit for work ; while of the rest

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***British Medical Journal,** Vol. I., 1911, page 1137.

many others were capable of light work. Much must of course depend on the stage of the disease at which the treatment is begun, and the economic value of early recognition and prompt seclusion is becoming every day more obvious to the public mind now that it has been well impressed upon it by medical teaching.

A useful step in this direction has been taken within recent years in the districts of Paddington, North Kensington, and Marylebone, following the example of Edinburgh, by the establishment of Anti-Tuberculosis Dispensaries (or Clinics), Institutions which make it their business to detect early cases of Tuberculosis, to visit such cases in their own homes, and to advise as to precautions, in the interest of the patient and his surroundings, facilitating the removal of the more or less infective cases to hospital, saratorium or infirmary, while keeping an eye upon those members of his family or others who may have been living in close contact with him.

This system is reported to be doing more for the prevention of the disease than any scheme hitherto initiated in London. The Charity Organisation Society gives it assistance by means of hospital letters, extra comforts, introduction to suitable occupations, and in other ways.

There can be no doubt that in the case of Tuberculosis, as with other infective diseases, very dangerous cases to the community are the least obvious ones, which escape recognition and so come under no control ; it is the business of a Tuberculosis Dispensary or Clinic to search out such cases, so that by early diagnosis and immediate treatment they may be prevented from becoming foci of infection.

Notification 1910.

TABLE I. (CASES).

361 Cases were notified under the Voluntary System during the year 1910
174 „ „ under the Public Health (Tuberculosis) Regulations, 1908 during the year 1910.
—
535 Total number notified.

Forty-two of the Poor-Law Cases were previously notified under the Voluntary System—and are not included in these tables.

In 328 Cases, Disease was reported as Phthisis of Lungs.
„ 92 „ „ „ limited to Right Lung.
„ 73 „ „ „ limited to Left Lung.

TABLE II. (CASES).

History Table showing Relatives Affected.

98 Cases, History of Phthisis in Family.

	Father.	Mother.	Husband.	Wife.	Brother.	Sister.	Son.	Daughter.	Uncle.	Aunt.	G.Father.	G.Mother.	Cousins.
Male Cases 36	7	7		2	13	7	5	2	5	1	4		
Female Cases 62	14	6	6		20	18	4	4	2	3	2	1	2

In 37 Cases, history shows more than 2 Persons affected in Family.

TABLE III. (CASES).

Occupation of Notified Cases.

Occupation.	Male.	Female.	Total.
Boot, Shoe, Leather	10	3	13
Builders	1	—	1
Butchers	2	—	2
Clerks	18	3	21
Cocoa	2	2	4
Cotton, Clothing, Tailoring	11	19	30
Domestics	1	31	32
Drivers, etc.	8	—	8
Engineering—Iron Workers, etc.	24	—	24
Fish	4	—	4
Gardener	1	—	1
Glass Worker	1	—	1
Glue Worker	1	—	1
Hawkers	8	—	8
Home	—	5	5
Housewives	—	117	117
Institutions	8	2	10
Insurance Agents, Canvassers	3	—	3
Jewellers	2	—	2
Joiners, Carpenters, Cabinet Makers	6	—	6
Labourers	75	—	75
Miller	1	—	1
Miners	2	—	2
Nurses	—	3	3
No occupation	3	6	9
Painters	5	—	5
Paper, Printing, Stationery	7	18	25
Plasterer	1	—	1
Post Office	1	—	1
Police	1	—	1
Potters	2	—	2
Publicans, Barmen, etc.	4	2	6
Railway Worker	3	—	3
Reservists—Army, Navy	1	—	1
Schools	11	10	21
Seamen	3	—	3
Shop Assistants	5	3	8
Stoker	1	—	1
Sweep	1	—	1
Teachers	1	4	5
Tobacco, Cigar, Cigarette	14	10	24
Verger	1	—	1
Waiters	—	1	1
	254	239	493
	Previously	Reported	42
			535

TABLE IV. (Cases).

Table Showing number of Persons in Affected House.

Persons in House	1	2	3	4	5	6	7	8	9	10	11 and over	
Cases ..	1	11	46	79	108	65	46	26	24	11	14	= 431

Institutions .. 62
Previously reported 42

535

FAMILIES IN HOUSE.

Families in House	1	2	3	4	5	
Cases	317	101	10	2	1	= 431

Institutions .. 62
Previously reported 42

535

ROOMS IN HOUSE.

Rooms in House	2	3	4	5	6	7	8	9	10	
Cases	5	14	35	56	237	32	38	3	14	= 431

Institutions .. 62
Previously reported 42

535

CONDITION OF HOUSE AS TO " CLEANLINESS," " DAMPNESS, VENTILATION & REPAIR," & " DRAINAGE."

	Reported Good.	Reported Fair.	Reported Bad.	Institutions.	Previously Reported.	Totals.
Cleanliness	138	283	10	62	42	535
Dampness, Ventilation and Repair	137	284	10	62	42	535
Drainage	169	255	7	62	42	535

18 Notices were issued.

Houses classed as " good " or " fair," may be deemed satisfactory ; no action was required in either group.

TABLE V. (CASES).

Table showing number of persons in, and number of rooms occupied by patient's family.

Rooms per Family.	Persons in Family	1	2	3	4	5	6	7	8	9	10	11	13	14	
	1	33	8	.	.	.	.	.	.	.	.	.	.	.	41
	2	7	18	8	4	2	.	.	.	.	.	.	.	.	39
	3	1	10	17	11	7	1	.	1	.	.	.	.	.	48
	4	.	6	9	15	12	7	3	.	3	.	.	.	.	55
	5	.	2	3	15	18	7	3	1	1	.	.	.	.	50
	6	.	5	20	28	36	30	16	12	7	2	3	1	.	160
	7	.		2	3	1	1	2	.	1	.	.	.	.	10
	8 and over.		.	5	5	8	6	.	2	1	1	.	.	.	28

=	431
Institutions ..	62
Previously reported	42
Cases notified during 1910 ..	535

TABLE VI. (CASES).

Common and Institution Lodging House Cases.

Notified in Common Lodging Houses. ..	3	Cases
Notified in Institution Lodging Houses	6	,,
Total number notified	9	,,

Milk.

459	Cases—	Name of milkman reported.
58	,,	Obtained from casual sellers.
18	,,	Used Condensed Milk.
111	,,	Milk was boiled before use.

Disinfection, etc.

25	Cases—	Clothing was disinfected.
128	,,	Bedding was disinfected.
222	,,	Rooms were disinfected.
219	,,	Refused. In many cases the people would like disinfection to be carried out but could not owing to state of health of patient.

Sputum Flasks, etc.

46	Sputum Flasks were supplied.
720	Bottles of Disinfectant Solution were supplied.

Schools.

21 Cases attended the Elementary Day Schools.

TABLE VII. (DEATHS).

Enquiry into 354 Deaths returned from Phthisis.

274	Cases	died at	Home.
27	,,	,,	Stapleton Workhouse.
18	,,	,,	Eastville Workhouse.
13	,,	,,	Asylum.
13	,,	,,	Southmead Workhouse.
9	,,	Other Institutions.	
354			

Year of Notification of 354 Fatal Cases :—

7	Deaths	occurred	amongst	cases	notified in	1905
17	,,	,,	,,	,,	,,	1906
9	,,	,,	,,	,,	,,	1907
27	,,	,,	,,	,,	,,	1908
60	,,	,,	,,	,,	,,	1909
125	,,	,,	,,	,,	,,	1910
109	,,	,,	,,	,,	not notified.	
354						

TABLE VIII. (DEATHS).

Showing Occupations of 354 Fatal Cases.

Occupation.	Males.	Females.	Total.
Bakers	3	—	3
Boots, Shoes, Leather Workers	14	1	15
Butchers	3	—	3
Canvassers, Agents	3	—	3
Clerks	14	—	14
Clothing	8	14	22
Cocoa	1	3	4
Domestic Servants	—	17	17
Drivers of Horses	5	—	5
Gardeners	5	—	5
Hawkers	3	—	3
Home	—	7	7
Housewives	—	79	79
Iron Workers, Engineers	8	—	8
Jeweller	1	—	1
Joiners, Carpenters, Wood Workers, etc.	8	—	8
Labourers	41	—	41
Lamplighter	1	—	1
Laundry	—	5	5
Masons	2	—	2
Miners—Pit Labourers	2	—	2
No Occupation	6	13	19
Navy, Army, Reservists	2	—	2
Painters, Decorators, French Polishers	3	—	3
Paper, Printing, Stationery	4	14	18
Plasterer	1	—	1
Post Office	3	—	3
Publicans, Barmen, etc.	2	—	2
Potters	2	—	2
Rag Sorter	—	1	1
Railwaymen	4	—	4
Religious Orders	1	1	2
Schools	9	8	17
Seamen	2	—	2
Shop Assistants	7	4	11
Stokers	2	—	2
Sweep	1	—	1
Teachers	1	2	3
Tobacco, Cigars, Cigarettes	3	9	12
Warehouse	1	—	1
	176	178	354

TABLE IX. (DEATHS).

Housing—Particulars of 354 Fatal Cases.

PERSONS IN AFFECTED HOUSE.

Persons in House	2	3	4	5	6	7	8	9	10	11	13	17	
Cases	12	34	50	54	39	28	27	14	7	5	2	2	=274

Institutions.......... 80

354

FAMILIES IN HOUSE.

Families in House	1	2	3	4	
Cases	199	59	10	6 =	274

Institutions 80

354

CONDITION OF HOUSE AS TO "CLEANLINESS," "DAMPNESS, VENTILATION AND REPAIR," AND "DRAINAGE."

	Reported Good.	Reported Fairly Good.	Reported Bad.	Total.
Cleanliness	81	186	7	274
Dampness, Ventilation, and Repair	60	210	4	274
Drainage.............	75	195	4	= 274

Institutions 80

354

Twelve notices were issued.

TABLE X. (DEATHS).

Table showing number of persons in, and number of rooms occupied by Patient's Family.

	Persons in Family.	1	2	3	4	5	6	7	8	9	11	13	
Rooms per Family.	1	24	1	.	.	.	.	.	.	.	.	.	25
	2	1	12	2	6	.	2	1	.	.	.	.	24
	3	.	6	14	7	5	.	1	.	.	.	.	33
	4	.	5	8	7	5	4	.	1	2	.	.	32
	5	.	2	3	7	7	3	3	2	2	.	.	29
	6	.	3	14	28	9	20	10	12	7	1	1	105
	7	.	3	1	1	.	3	1	.	1	.	.	10
	8	.	.	3	4	5	1	1	2	.	.	.	16

	=274
Institutions	80
Deaths during year 1910 ...	354

TABLE XI. (DEATHS).

Milk.

224 Cases—Name of milkman reported.
42 ,, Obtained from casual sellers.
8 ,, Used condensed milk.
72 ,, Milk was boiled before use.

Disinfection, etc.

21 Cases—Clothing was Disinfected.
124 ,, Bedding was Disinfected.
200 ,, Rooms were Sprayed.

Onset of Fatal Cases.

Period of time from date of "onset" to death.

		YEARS.										
Period	Under 6 mths	1	2	3	4	5	6	7	8	9	10 & over	?
Cases	63	48	31	18	16	15	8	2	2	0	6	65=274

Institutions......	80
	354

WINSLEY SANATORIUM.

City Maintained Beds, 1910.

During the year 85 Males and 68 Females made application.

The ages of these 153 applicants were 8 under 15; 69 at ages 15 to 25; 76 at ages 25 to 65.

Admitted to the Sanatorium 39 Males, 25 Females. Total 64.

Period of time (in weeks) from date of receipt of application to date of admission.

1	Case	waited	2	weeks
4	,,	,,	4	,,
3	,,	,,	5	,,
7	,,	,,	6	
3	,,	,,	7	,,
5	,,	,,	8	,,
3	,,	,,	9	,,
10	,,	,,	10	,,
3	,,	,,	11	,,
3	,,	,,	12	,,
6	,,	,,	13	,,
3	,,	,,	14	,,
3	,,	,,	15	,,
1	,,	,,	16	,,
2	,,	,,	17	,,
2	,,	,,	18	,,
2	,,	,,	19	,,
2	,,	,,	20	,,
1	,,	,,	33	,,
64	average—		10	weeks 5 days.

Discharged from Sanatorium 36 Males, 31 Females. Total 67.

The "Class" in which the 67 Discharged cases were placed on admission to the Institution. (Winsley Resident Medical Officer's selection).

Class I.	Cases	22
,, II.	,,	18
,, III.	,,	24
Unclassified		3
		67

After History.

AFTER HISTORY OF PATIENTS TREATED IN THE BRISTOL MAINTAINED BEDS AT WINSLEY SANATORIUM.

Year of Discharge.	Total No. Discharged.	Alive on 31st December, 1910.	Well and working capacity maintained.	Whereabouts unknown.	Dead.
1905	45	12	11	8	25
1906	67	18	17	11	38
1907	68	31	23	21	16
1908	78	34	27	15	29
1909	75	33	22	23	19

The following Table shows how the 153 applications were dealt with :—

55	.. "Selected" and "Admitted."
46	.. Not accepted by Committee.
6	.. Rejected by Medical Consultative Board as "not suitable."
13	.. Withdrawn.
28	.. Waiting admission on 31st December, 1910.
5	.. Died since receipt of application.
153	Total.

Condition stated upon Discharge.

61	.. Discharged improved.
1	.. Discharged little improved.
5	.. Discharged not improved.
67	Total.

I am, my Lord Mayor and Gentlemen,
Your obedient Servant,
D. S. DAVIES, M.D., D.P.H.

Medical Officer of Health for the City and County of Bristol, and for the Port of Bristol; General Medical Superintendent City Hospitals; Lecturer on the Principles and Practice of Public Health, University of Bristol (Medical School), and Internal Examiner in Public Health to the University; Past-President of the Society of Medical Officers of Health; of the Bath and Bristol Branch of the British Medical Association; and of the Bristol Medico-Chirurgical Society: Examiner in State Medicine (M.D. Examination), University of London; Member of Board of Examiners of the Royal Sanitary Institute: Late Medical Inspector (on Cholera Survey and General Sanitary Survey of England) to H.M. Local Government Board; Surg. Col. (retd.), V.D. 1st Glos. R.G.A. (V.); Lt. Col. R.A.M.C. Sanitary Service Territorial Force; etc.

May, 1911.

TABLE B. Showing Population, Births, Marriages, and Deaths, and Birth and Death Rates in Bristol, for the 25 Years, 1886–1910. (All figures revised on 1891 Census).

	Estimated Population.	Registered Births.	*Marriages in the District of the Bristol Union.	Deaths.					Annual Rates.			
				Total Deaths at all Ages.	Under 1 Year.	Over 1 and under 5.	Over 60.	In Public Institutions	Birth Rate per 1000.	Death Rate per 1000.	Infantile Mortality to 1000 Births.	Zymotic Rate.
1886	214,134	6,724	949	4,253	1,002	619	1,132	694	31·4	19·8	149·1	2·2
1887	215,694	6,619	956	4,542	996	796	1,244	680	30·6	21·0	150·4	3·0
1888	217,266	6,608	981	3,816	824	432	1,138	710	30·4	17·5	124·6	1·3
1889	218,848	6,694	932	4,021	976	595	1,062	660	30·5	18·3	145·8	2·2
1890	220,442	6,634	1,033	4,532	991	597	1,265	730	30·0	20·5	149·4	2·1
1891	222,049	6,725	937	4,631	972	603	1,371	815	30·3	20·8	144·5	1·7
1892	223,592	6,563	973	4,331	953	634	1,197	776	29·3	19·3	145·2	2·0
1893	225,028	6,788	955	4,241	959	411	1,283	851	30·1	18·8	141·2	1·6
1894	226,578	6,393	920	3,888	848	524	1,077	769	28·8	17·1	148·3	2·0
1895	228,139	6,622	846	4,108	935	414	1,321	837	29·0	18·0	141·1	1·1
1896	230,626	6,537	863	3,960	908	476	1,130	793	27·8	16·8	138·9	1·8
1897	232,242	6,514	884	3,988	949	434	1,195	821	28·0	17·1	145·6	1·8
1898	316,900	9,061	837	5,441	1,491	795	1,455	881	28·5	17·1	164·5	2·6
1899	320,911	9,336	2,714	5,844	1,467	567	1,781	1,049	29·0	18·2	157·1	1·8
1900	324,973	8,972	2,839	5.397	1,185	673	1,561	968	27·6	16·6	131·9	1·8
1901	329,086	8,889	2,786	5,249	1,159	558	1,379§	1,039	27·0	15·9	130·4	1·6
1902	334,632	9,368	2,827	5,905	1,225	965	1,351	1,173	27·4	17·3	130·7	2·7
1903	338,895	9,239	2,738	4,822	1,075	467	1,189	1,094	27·2	14·2	116·3	1·1
1904	343,204	9,145	2,894	5,347	1,222	545	1,386	1,162	26·6	15·5	133·7	1·6
1905	358,515	9,649	2,870	5,286	1,182	623	1,336	1,197	26·9	14·7	122·4	1·6
1906	363,223	9,372	2,793	5,299	1,196	495	1,414	1,188	25·8	14·5	127·6	1·6
1907	367,979	8,915	2,793	4,897	900	327	1,500	1,211	24·2	13·3	100·9	0·8
1908	372,785	8,752	2,806	5,230	1,102	509	1,522	1,247	23·0	13·7	125·8	1·2
1909	377,642	8,507	2,670	4,869	860	375	1,518	1,288	22·5	12·8	101·0	0·9
1910	**382,550**	**8,258**	**2,670**	**4,523**	**746**	**293**	**1,474**	**1,283**	**21·5**	**11·8**	**90·3**	**0·6**

* Previous to 1899 this includes the Registration Sub-Districts of St. Mary Redcliff, Castle Precincts, St. Paul, St. James, and St. Augustine only.

† The Marriages for 1899 were for the first time given for an area co-extensive with the whole enlarged City.

§Over 65, according to the new age grouping in the L.G.B. Tables.

TABLE C. Showing Number of Deaths from Zymotic Diseases in Bristol, during the 25 years, 1886-1910.

													Enlarged City.												
	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Small Pox ...	8	13	26	...	...	1†	...	2‡	16§	...	5	1	...	..	...	...	1	3	1‖	...	..	1	...	9¶	...
Diphtheria *(including M. Croup)*	28	23	26	15	16	16	38	53	50	34	38	36	44	33	103	124	189	119	105	59	82	65	69	55	38
Erysipelas ...	11	10	21	16	9	12	21	11	8	16	10	5	6	13	12	21	12	8	9	8	7	3	6	3	7
Scarlet F. ...	89	217	45	26	40	37	47	35	16	16	59	18	14	13	39	36	66	49	36	39	27	26	10	12	12
Typhus ...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric F. ...	29	23	28	38	33	23	18	26	21	22	20	47	26	35	44	40	59	21	26	13	21	15	10	12	9
Puerperal F.*	8	9	17	11	12	7	25	16	11	8	8	6	11	22	20	17	17	14	16	6	14	11	7	17	14
Measles ...	101	147	61	185	92	239	105	25	116	8	143	57	309	38	200	7	411	11	94	180	140	36	96	90	32
Wh. Cough...	101	124	38	105	201	53	154	80	177	45	64	118	110	118	54	189	105	65	110	123	102	26	128	56	66
Diarrhœa ...	119	117	68	131	96	58	99	125	65	143	106	153	348	345	165	134	110	107	206	169	213	133	154	116	76

* Previous to 1884, Puerperal Fever was not separated in the Local returns from Puerperal Diseases generally.

† This death occurred in the Novers Hill Hospital outside the City, and so did not appear in the General Returns.

‡ Of these deaths one occurred in the Novers Hill Hospital, outside the City, and so did not appear in the General Returns.

§ Of these deaths five occurred in the Novers Hill Hospital, outside the City, and so did not appear in the General Returns.

‖ This death occurred on the Hospital Ship, Avonmouth. Patient was admitted from Keynsham Workhouse, outside the City.

¶ Including one death which occurred at Cossham Hospital, admitted from Chipping Sodbury Rural District.

CITY OF BRISTOL.

Infectious Disease (Notification Act), 1889.

Notifications received during each Quarter of 1910.

1910.—Table *a*.

NOTIFIABLE DISEASE	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Total of each diseases.
Small Pox	4*	...	...	...	**4***
Cholera. Choleraic Diarrhœa ...	...	...	...	...	...
Diphtheria (including Membranous Croup)...	143	134	113	166	**556**
Erysipelas	39	42	33	63	**177**
Scarlet Fever ...	199	233	373	411	**1,216**
Typhus Fever ..	...	...	...	...	...
Enteric Fever ...	22	16	15	32	**85**
Relapsing Fever ...	...	...	...	...	...
Continued Fever ...	...	...	...	...	...
Puerperal Fever ...	2	15	12	10	**39**
Totals in each Quarter	**409**	**440**	**546**	**682**	**2,077**

* Including two Port cases, admitted to Ship Hospital, Avonmouth.

CITY OF BRISTOL.

TABLE *b*. Notification and Deaths registered by Sub-Districts during the year 1910.

	Small Pox.		Choleraic Diarrhœa.		Diphtheria (*including Membranous Croup*)		Erysipelas.		Scarlet Fever		TYPHUS.		ENTERIC TYPHOID		Relapsing.	Continued		PUERPERAL.		Total cases in each Sub-District.
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		Cases	Deaths	Cases	Deaths	
Ashley					64	**6**	9		102	**2**			10	**2**				4	**1**	189
Bedminster					81	**5**	38	**1**	99	**1**			17	**2**				9	**5**	244
Bristol Central	1				56	**5**	26		119	**2**			16	**1**				6	**5**	224
Clifton					68	**5**	15		78				4	**1**				1		166
Knowle					22		8	**1**	43				11	**2**				4		88
St George					104	**8**	24		312	**4**			10					5	**1**	455
St. Philip	1				73	**4**	37	**2**	328	**3**			7					7		453
Stapleton					42	**5**	9	**1**	38				2	**1**				2	**1**	93
Westbury-on-Trym ..					18		3		82											103
Public Insts.					25		7	**2**	14				1					1	**1**	48
Admitted to Public Insts from outside of Borough	2				3		1		1				7							14
Total cases of each disease	4				556		177		1,216				85					39		2,077
Total deaths from each disease						**38**		**7**		**12**				**9**					**14**	**80**
Percentage of deaths to known cases	0·0				6·8		3·9		0·9				10·5					35·8		3·8

CITY OF BRISTOL.

NOTIFICATION—1910.

TABLE *c*. Showing the number of cases of Infectious Disease notified under the Infectious Disease Notification Act, 1889, since its adoption in 1890.

									Enlarged City.												
	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Small Pox ...	0	16	0	165	201	4	42	10	2	0	0	1	6	46	34	13	32	6	1	38	4
Diphtheria (including Membranous Croup).	56	70	106	141	128	165	258	205	217	215	506	908	1,109	1,134	1,051	1,021	839	926	924	712	556
Erysipelas ...	105	135	196	230	154	195	246	203	263	337	342	392	376	244	256	303	239	244	223	199	177
Scarlet Fever ...	559	888	1,442	1,245	485	562	1,352	511	382	697	1,957	2,206	2,724	2,168	1,258	1,085	1,019	886	486	692	1,216
Typhus... ...	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Enteric Fever...	122	117	135	122	90	89	110	350	113	219	285	281	319	134	172	76	120	74	103	66	85
Continued or Doubtful Fever	6	8	3	6	1	1	2	0	0	2	2	2	1	0	0	0	0	0	0	0	0
Puerperal Fever	11	11	34	30	18	16	21	10	18	36	46	43	39	31	27	30	37	36	22	36	39

COMPARATIVE TABLE—Showing the Estimated Population, Birth-rate, Death-rate, Zymotic-rate, Fever Death Rate, Diarrhœa Death Rate, and Infantile Death Rate of the **16** LARGEST TOWNS OF ENGLAND (those having a population of over 200,000); also of EDINBURGH, GLASGOW, DUBLIN, BELFAST and CARDIFF, for the Year 1910, compared with the same particulars and rates for the group of **77** large towns. *From the Registrar General's Return.*

	Estimated Population, middle of 1910.*	Birth-rate.	Death-rate.	Zymotic rate.	Enteric Fev. Death-rate.	Diarrhœa Death-rate.	Deaths under 1 year to 1000 Births.
77 Large Towns	16,940,895	24·9	13·4	1·23	0·05	0·38	115
London	4,872,702	23·6	12·7	1·14	0·04	0·28	103
Liverpool	767,606	30·1	17·7	2·28	0·04	0·71	140
Manchester	716,354	27·1	16·1	1·79	0·09	0·49	131
Birmingham	570,113	26·3	13·7	1·12	0·04	0·39	130
Leeds	490,985	22·2	13·7	1·28	0·04	0·39	132
Sheffield	478,763	26·5	13·4	1·50	0·04	0·67	127
Bristol	**382,550**	**21·7**	**11·5**	**0·59**	**0·02**	**0·19**	**90**
West Ham	328,585	26·4	11·7	1·20	0·05	0·38	101
Bradford	295,865	18·6	14·0	1·25	0·10	0·33	127
Newcastle-on-Tyne	285,951	26·4	13·9	1·15	0·03	0·36	121
Hull	280,006	28·6	15·2	1·76	0·10	0·93	135
Nottingham	266,471	24·8	14·2	1·01	0·05	0·35	128
Leicester	248,374	21·4	11·3	0·68	0·04	0·29	126
Stoke-on-Trent	245,726	30·8	16·0	1·84	0·12	0·51	149
Salford	244,636	26·7	15·1	1·70	0·10	0·52	130
Portsmouth	217,989	26·7	13·8	1·36	0·18	0·25	104
Edinburgh	†360,276	19·6	14·0	1·10	0·02	0·36	111
Glasgow	†884,520	25·1	15·1	2·01	0·06	0·68	121
Dublin (Registration Area) ...	§402,928	28·3	19·9	1·34	0·10	0·65	142
Belfast	§ 391,167	27·8	18·6	2·74	0·05	0·62	143
Cardiff	199,189	24·3	11·9	0·96	0·04	0·36	111

* These Populations are based on the 1901 Census returns. † The Figures for Edinburgh and Glasgow are for the calendar year, and are not corrected for "country deaths."

§ Excluding Deaths of Persons admitted to Public Institutions from without the boundary.

TABLE I.

Vital Statistics of Whole District during 1910 and Previous Years.

CITY OF BRISTOL.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
				Under 1 Year of Age.		At all Ages.						
		Number.	Rate per 1000 population.	Number.	Rate per 1000 Births registered.	Number	Rate per 1000 population.				Number.	Rate per 1000 population.
1	2	3	4	5	6	7	8	9	10	11	12	13
1900	324,973	8,972	27·6	1,185	131·9	5,397	16·6	971	79		5,318	16·3
1901	329,086	8,889	27·0	1,159	130·4	5,249	15·9	1,039	79		5,170	15·7
1902	334,632	9,368	27·4	1,225	130·7	5,905	17·3	1,173	115		5,790	16·9
1903	338,895	9,239	27·2	1,075	116·3	4,822	14·2	1, 094	118		4,704	13·8
1904	343,204	9,135	26·6	1,222	133·7	5,347	15·5	1,162	109		5,238	15·2
1905	358,515	9,649	26·9	1,182	122·4	5,286	14·7	1,197	97	4	5,193	14·4
1906	363,223	9,372	25·8	1,196	127·6	5,299	14·5	1,188	101	2	5,200	14·3
1907	367,979	8,915	24·2	900	100·9	4,897	13·3	1,211	113	1	4,785	13·0
1908	372,785	8,753	23·0	1,102	125·8	5,230	13·7	1,247	131	10	5,109	13·4
1909	377,642	8,507	22·5	860	101·0	4,869	12·8	1,288	130	6	4,745	12·5
Averages for years 1900-1910 ...	351,093	9,079	25·85	1,110	122·2	5,230	14·8	1,157	107	*	5,125	14·5
1910	382,550	8,258	21·5	746	90·3	4,523	11·8	1,283	146	8	4,385	11·4

*The information required is not available.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums. A list of the Institutions in respect of the deaths in which corrections have been made should be given on the back of this Table.

Area of District in acres (exclusive of area covered by water) 11,705

Total population at all ages	.. ..	328,945	At Census of 1901.
Number of inhabited houses	.. ..	58,235	
Average number of persons per house	..	5·6	

I. Institutions within the District receiving sick and infirm persons from outside the District.	II. Institutions within the District receiving sick and infirm persons from the District.	III. Other Institutions, the deaths in which have been distributed among the several localities in the District.
ROYAL INFIRMARY.	ROYAL INFIRMARY.	CITY HOSPITALS :—
GENERAL HOSPITAL.	GENERAL HOSPITAL.	NOVERS HILL,
CHILDREN'S HOSPITAL.	CHILDREN'S HOSPITAL.	HAM GREEN,
		CLIFT HOUSE (closed July, 1906).
COSSHAM HOSPITAL.	COSSHAM HOSPITAL.	
CONVALESCENT HOME.	CONVALESCENT HOME.	
ORTHOPÆDIC HOSPITAL.	ORTHOPÆDIC HOSPITAL.	

Municipal Institutions (within the City)—

EASTVILLE WORKHOUSE.

SOUTHMEAD WORKHOUSE.

STAPLETON WORKHOUSE.

LUNATIC ASYLUM.

CITY OF BRISTOL.

Table II

Vital Statistics of Separate Localities (Registration Sub-Districts) in 1910 and previous years.

NAMES OF LOCALITIES.	1.—ASHLEY.				2.—BEDMINSTER.				3.—BRISTOL CENTRAL.			
YEAR.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.
*1900 ...	40,107	843	510	109	54,828	1,938	909	236	54,108	1,158	826	150
1901 ...	42,548	877	472	73	55,838	1,984	894	248	53,001	1,082	795	194
1902 ...	40,881	875	502	100	61,672	2,087	968	237	44,744	1,131	829	176
1903 ...	42,039	943	462	92	63,142	2,041	797	229	43,726	1,065	618	139
1904 ...	42,842	894	411	75	64,505	2,003	850	243	42,793	1,027	706	157
1905 ...	44,144	921	445	86	65,877	2,072	826	234	41,864	1,042	771	162
1906 ...	45,023	906	468	72	67,261	1,981	865	256	40,936	1,024	665	178
1907 ...	45,909	908	469	68	68,652	1,937	775	195	40,011	920	621	109
1908 ...	46,802	837	501	81	70,055	1,765	787	217	39,087	957	628	156
1909 ...	47,702	803	485	59	71,469	1,736	709	175	38,165	915	621	129
Averages of Years 1900 to 1909	43,799	880	472	81	64,329	1,954	838	227	43,843	1,032	708	155
1910 ...	50,361	799	412	46	69,389	1,623	619	143	37,110	937	507	99

NAMES OF LOCALITIES.	4.—CLIFTON.				5.—KNOWLE.				6.—ST. GEORGE.			
YEAR.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d
*1900 ...	47,301	660	577	74	8,585	352	171	45	48,763	1,764	725	242
1901 ...	46,820	701	552	71	8,671	401	146	37	50,501	1,798	755	248
1902 ...	44,260	665	591	77	13,709	452	199	56	58,194	1,842	884	253
1903 ...	44,435	660	494	56	14,058	451	153	39	59,738	1,822	747	214
1904 ...	44,446	688	556	68	14,679	522	200	65	61,670	1,779	853	273
1905 ...	41,462	702	558	69	15,302	548	199	50	63,612	1,792	759	216
1906 ...	44,483	696	541	75	15,928	530	210	57	65,567	1,703	706	196
1907 ...	44,504	620	507	67	16,558	512	214	44	67,533	1,551	623	144
1908 ...	44,539	634	530	58	17,191	504	197	49	69,511	1,635	720	198
1909 ...	44,573	670	542	65	17,828	487	172	26	71,501	1,541	635	154
Averages of Years 1900 to 1909	44,682	669	544	68	14,250	475	186	46	61,659	1,722	740	213
1910 ...	46,647	686	518	68	18,430	466	181	31	71,591	1,512	605	145

NAMES OF LOCALITIES.	7.—ST. PHILIP.				8.—STAPLETON.				9.—WESTBURY-ON-TRYM.			
YEAR.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.
*1900 ...	53,067	1,603	907	249	18,214	491	238	53				
1901 ...	52,269	1,477	794	208	19,438	569	221	80				
1902 ...	48,891	1,665	997	258	22,191	607	257	60				
1903 ...	48,986	1,614	711	203	22,771	553	214	64				
1904 ...	48,810	1,545	814	238	23,459	575	260	62				
1905 ...	48,639	1,586	735	226	24,151	556	241	68	10,464	347	135	41
1906 ...	48,472	1,551	803	238	24,847	555	222	57	10,706	334	141	34
1907 ...	48,310	1,494	648	156	25,547	569	251	56	10,950	300	99	22
1908 ...	48,152	1,413	757	229	26,252	589	275	57	11,196	324	107	28
1909 ...	47,999	1,448	621	153	26,961	524	216	47	11,444	272	118	24
Averages of Years 1900 to 1909	49,359	1,539	778	215	23,383	558	239	60				
1910 ...	49,653	1,384	567	139	27,676	506	215	29	11,693	244	101	17

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* The Registration Sub-districts were so interchanged at the extension of the City in 1897, by the consequent re-arrangement of boundaries in 1898, that this Table cannot be given for previous years.

CITY OF BRISTOL.

Cases of Infectious Disease notified during the Year ending 31st December, 1910.

NOTIFIABLE DISEASES.	CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.											NO. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.										
	At all Ages.	At Ages—Years.						Ashley	Bedminster	Bristol Central	Clifton	Knowle	S. George	S. Philip	Stapleton	Westbury-on-Trym	Public Institutions	Not belonging to Borough	Ashley	Bedminster	Bristol Central	Clifton	Knowle	S. George	S. Philip	Stapleton	Westbury-on-Trym	Public Institutions	Not belonging to Borough
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards																						
Small-pox	4	...	...	...	1	3	...	...	...	1	...	...	...	1	.	...	...	2	...	...	1	...	...	...	1	...	...	...	2
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Croup)	556	17	154	318	42	24	1	64	81	56	68	22	104	73	42	18	25	3	35	58	38	45	7	60	50	26	8	24	3
Erysipelas	177	6	3	15	18	105	30	9	38	26	15	8	24	37	9	3	7	1	1	3	2	...	2	1	2	...	...	7	1
Scarlet fever	1216	11	331	792	59	23	...	102	99	119	78	43	312	328	38	82	14	1	63	61	88	52	28	206	254	17	64	15	...
Typhus fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.	...	..	...	...	...	..
Enteric fever ...	85	...	4	38	11	32	...	10	17	16	4	11	10	7	2	...	1	7	8	15	12	3	11	10	6	1	...	1	4
Relapsing fever .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Continued fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Puerperal fever ...	39	...	...	...	8	31	...	4	9	6	1	4	5	7	2	..	1	...	2	3	1	1	...	1	2	...	..	1	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.
Totals ...	2077	34	492	1163	139	218	31	189	244	224	166	88	455	453	93	103	48	14	109	140	142	101	48	278	315	44	72	48	10
Phthisis Voluntary	361	...	3	26	119	211	2	48	80	52	28	27	49	54	15	8	...	...											
Poor Law	174	...	...	6	36	125	7	8	29	35	8	5	22	32	3	2	24	6											

Table IV

CITY OF BRISTOL

Causes of, and Ages at, Death during the Year ending December 31st, 1910.

Cause of Death.	Deaths in whole District at Subjoined Ages.							Deaths in Localities (at all Ages).											Deaths in Public Institutions.
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25	25 and under 65	65 and upwards	Ashley	Bedminster	Bristol Central	Clifton	Knowle	S. George	S. Philip	Stapleton	Westbury-on-Trym	Municipal Institutions	Not belonging to Borough	
SMALL-POX	...	...	...	...	...		...	...	...	...	..	...	...	...	..	...	...	...	...
Chicken Pox	3	2	1	...	...	...	...	2	...	.	...	...		1	...	...	...	...	...
MEASLES	32	10	21	1	...	...	...	2	2	1	...	1	15	5	1	2	3	..	3
SCARLET FEVER	12	...	8	3	1	...	...	2	1	2	...	...	4	3	...	...	...	...	10
WHOOPING-COUGH ...	66	36	29	1	...	...	...	5	20	7	4	1	11	14	3	...	1	...	3
DIPHTHERIA (including Membranous Croup) ...	38	2	16	19	1	...	...	6	5	5	5	.	8	4	5	...	...	...	25
Croup	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
FEVER Typhus	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
FEVER Enteric	9	...	...	...	2	7	...	2	2	1	1	2	...	..	1	...	...	...	7
FEVER Other continued ...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
Cerebro Spinal Meningitis ...	3	1	...	...	1	1	...	1	...	...	2	..	...	...	...	...	..	...	2
Influenza	43	...	...	3	1	13	26	4	2	2	9	2	6	...	4	1	13	...	13
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...
DIARRHŒA	76	54	10	2	...	2	8	1	14	7	9	1	21	15	8	...	...	...	8
Enteritis	38	29	7	...	...	...	2	2	6	5	7	...	4	8	1	1	2	2	9
Gastritis	6	4	...	...	...	1	1	...	1	...	1	...	1	1	...	...	2	...	2
Puerperal fever	14	...	..	...	1	13	..	1	5	5	...	...	1	...	1	...	1	...	6
Erysipelas	7	1	...	...	1	4	1	...	1	...	...	1	...	2	1	...	2	...	3
Other septic diseases	7	2	1	...	...	4	...	1	1	1	...	...	1	2	...	...	...	1	7
Phthisis	354	2	4	14	78	245	11	23	43	37	26	21	54	50	21	4	71	4	80
Other Tubercular diseases ...	129	21	40	28	16	23	1	15	26	14	10	8	17	12	7	3	10	7	45
Cancer, malignant disease ...	340	...	1	2	6	207	124	40	37	36	47	16	36	39	14	5	48	22	107
Bronchitis	372	55	16	...	...	76	225	26	58	56	49	10	41	70	10	9	41	2	52
Pneumonia	269	57	56	8	11	81	56	15	48	36	27	10	45	41	8	7	27	5	82
Pleurisy	14	...	...	1	...	7	6	4	...	3	2	...	2	1	...	1	1	...	2
Other diseases of Respiratory Organs	78	10	4	1	3	39	21	7	16	2	12	3	11	10	2	1	14	...	20
Alcoholism Cirrhosis of liver	38	1	...	...	...	29	8	2	6	6	9	...	2	3	...	1	6	3	10
Venereal diseases . ..	19	14	...	...	1	3	1	1	2	6	1	1	1	...	...	...	7	...	9
Premature birth	173	173	...	...	...	...	...	14	32	22	16	13	34	33	...	7	2	..	6
Diseases and accidents of parturition	14	1	...	...	3	10	...	1	...	...	...	3	5	..	2	1	...	2	3
Ac. Rheumatism, Rh. Fever ..	18	...	...	2	4	8	4	2	2	2	2	...	3	2	1	2	2	...	4
Heart diseases	474	5	3	20	26	250	170	56	83	57	67	18	64	36	42	14	29	8	78
Diseases of Blood Vessels ...	296	...	...	...	1	121	174	35	36	44	37	14	29	42	15	4	37	3	64
Diseases of Nervous System ...	359	86	25	11	17	124	96	22	38	20	45	13	44	35	16	9	107	10	142
Diseases of Urinary System ...	217	...	2	2	9	119	85	19	20	13	25	4	18	16	6	5	81	10	124
Other Diseases of the Digestive System..	173	24	7	8	10	82	42	22	16	18	20	13	19	25	6	2	6	26	85
Accidents—Negligence	118	6	20	11	15	46	20	4	17	12	7	5	18	15	5	3	11	21	54
Suffocation—Overlying	5	3	...	1	...	1	...	1	...	...	1	...	...	2	1	...	..	...	...
Homicide	2	...	...	1	...	1	...	...	...	...	1	...	1	...	...	...	...	...	...
Suicide	22	...	...	...	1	19	2	3	2	4	4	...	2	4	...	1	1	1	7
All other causes	685	147	22	14	8	104	390	71	77	83	72	21	87	76	34	18	127	19	211
All causes	4523	746	293	153	217	1640	1474	412	619	507	518	181	605	567	215	101	652	146	1283
District Death Rates								8·17	8·91	13·66	11·10	9·81	8·45	11·41	7·76	8·63	..	...	...
District Birth Rates								15·86	23·38	25·24	14·71	25·28	21·11	27·87	18·28	20·86	..	...	...
Deaths of Infants under 1								46	143	99	68	31	145	139	29	17	25	4	...
Number of Births								M414 F.385	846 777	490 447	351 335	234 232	772 740	720 664	264 242	127 117	43 58	...	...
								799	1623	937	686	466	1512	1384	506	244	101		
Infantile Rate ...								57·57	88·10	105·65	99·12	66·52	95·89	100·43	57·31	69·67	...	...	...

CITY RATES.

No. of Births.		Birth Rate.	Death Rate.			Principal Epidemic Diseases (Zymotic) Rate.	Infantile Rate.
			This Year.	Last Year.	10 Years' Average		
Males. 4261	Females. 3997	21·58	11·82	12·89	14·89	0·60	90·33
8258							

Average age at Death of persons aged 65 and upwards, 75 *years and* 4 *months.*

Births of Illegitimate Children (Males 158, *Females* 150*)*—308

Deaths „ „ 81

Inquests 399

Uncertified Deaths 5

CITY OF BRISTOL.

TABLE V. INFANTILE MORTALITY during the Year ending 31st December, 1910.

Deaths from Stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under 1 Year.
All Causes :—																	
Certified	183	53	41	24	301	96	65	51	46	30	31	26	30	19	24	23	742
Uncertified	4	..	..	..	4	..	..			..	..	..	..	..	..	..	4
Common Infectious Diseases :—																	
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken-pox	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	2
Measles	..	..	..	..	..	..	2	..	1	..	..	..	2	..	5	..	10
Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria : Memb. Croup	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	2
Whooping Cough	..	..	..	..	..	6	6	3	..	2	4	1	5	4	3	3	37
Diarrhœal Diseases :—																	
Diarrhœa, all forms	..	1	1	..	2	7	12	5	10	2	6	2	3	2	..	2	53
Enteritis (not Tuberculous)	..	..	3	..	3	8	5	1	3	1	..	1	3	..	1	3	29
Gastritis, Gastro-intestinal Catarrh	..	1	..	..	1	1	..	1	1	2	..	1	..	1	..	..	8
Wasting Diseases :—																	
Premature Birth	121	21	13	6	161	9	2	2	..	..	..	..	..	..	..	..	174
Congenital Defects	2	2	1	..	5	..	..	..	..	..	..	..	..	..	..	..	5
Injury at Birth	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Want of Breast-milk	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Atrophy, Debility, Marasmus	8	6	2	4	20	18	5	10	6	4	4	2	..	1	2	..	72
Tuberculous Diseases :—																	
Tuberculous Meningitis	..	..	1	1	2	..	1	1	..	2	...	1	2	..	1	4	14
Tuberculous Peritonitis : Tabes Mesenterica	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	2
Other Tuberculous Diseases	..	..	..	..	..	..	2	1	..	1	..	..	2	1	..	1	8
Erysipelas	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Syphilis	1	2	2	1	6	2	1	4	1	..	..	..	..	..	..	..	14
Rickets	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	3
Meningitis (not Tuberculous)	..	..	..	..	..	1	..	..	1	1	..	..	3	..	..	1	7
Convulsions	8	10	10	6	34	10	4	7	6	2	3	5	1	..	1	1	74
Bronchitis	1	..	..	2	3	12	12	6	2	5	4	2	1	3	3	2	55
Laryngitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pneumonia	..	..	1	..	1	7	5	5	6	4	7	6	5	4	3	4	57
Croup—Spasmodic	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Suffocation, overlying	2	1	..	1	4	..	..	..	..	..	..	..	..	..	..	..	4
Other Causes	43	8	7	3	61	14	8	4	7	2	3	5	3	2	5	..	114
	187	53	41	24	305	96	65	51	46	30	31	26	30	19	24	23	746

PART II.

GENERAL.

WATER SUPPLY.

The Bristol Water Works Company.

SOURCES OF SUPPLY.—(1) Springs in the triassic conglomerates and carboniferous limestone of the Mendip Hills, 16 miles from the City. (2) The Yeo Reservoir, and Richford and Langford Springs, 12 miles from City. (3) Deep wells at Chelvey in the New Red Sandstone (triassic).

STORE RESERVOIRS.—At Barrow Gurney, where the water is filtered before delivery.

WATER SERVICE.—Constant.

AVERAGE DAILY CONSUMPTION.—23 gallons per head.

The City Analyst furnishes the following Report.

Analysis of Water.

Twenty-three samples were examined—seven samples representing the City supply were reported upon, and this report appears.

Sixteen other samples were received—fifteen from the Medical Officer of Health, and one from the City Valuer. The following conclusions were found in reference to those received from the Medical Officer :—

Sewage pollution was evident in seven cases, one of which also showed tidal water. Four samples showed past pollution. Three samples showed intermittent pollution by surface drainage, and one sample fell within the limits of sanitary purity.

The sample received from the City Valuer showed indications of past pollution.

Analytical Data (Chemical and Bacteriological) of City Water Supply.

Number of sample	5.		6.		8.		13.		19.		20.		23.	
Date of collection	9th March.		11th April.		8th June.		11th August.		31st October.		22nd November.		30th December.	
Place of collection	Tap in Laboratory.		Tap in Laboratory.		Tap in Laboratory.		Tap in Laboratory.		Tap in Laboratory.		Barrow Gurney.		Tap in Laboratory.	
Physical appearance	Clear, bright, neutral to litmus.		Clear, bright, neutral to litmus.		Clear, bright, neutral to litmus.		Clear, bright, neutral to litmus.		Clear, bright, neutral to litmus.		Clear, bright, neutral to litmus.		Clear, bright, neutral to litmus.	
Remarks on solids	No smell on heating solids.		No smell on heating solids.		No smell on heating solids.		Slight charring on heating solids.		No smell on heating solids.		No smell on heating solids.		No smell on heating solids.	
	Parts per 100,000.	Grains per gallon.	Parts per 100,000.	Grains per gallon.	Parts per 100,000.	Grains per gallon.	Parts per 100,000.	Grains per gallon.	Parts per 100,000.	Grains per gallon.	Parts per 100,000.	Grains per gallon.	Parts per 100,000.	Grains per gallon.
Free Ammonia	traces.		traces		traces		·0013	·0009	traces.		nil.		traces.	
Albuminoid Ammonia ..	·0025	·0018	·0025	·0018	·003	·0021	·0084	·0059	·006	·0042	·007	·0049	·003	·0021
Nitrogen in Nitrates ..	·11	·077	·128	·09	·08	·056	·048	·0336	·064	·0448	·07	·049	·16	·112
Chlorine as Chlorides ..	1·43	1·0	1·43	1·0	1·43	1·0	1·8	1·25	1·36	0·95	1·3	·09	1·14	0·8
Total Hardness		15°		15·4°		13·9°		11°		14·69°		14·8°		14·6°
Permanent Hardness ..		4°		3·6°		4·8°		4·7°		5·28°		4·8°		6·0°
Temporary Hardness ..		11°		11·8°		9·1°		6·3°		9·36°		10·0°		8·6°
Total Solids	28·5	20·0	30·4	21·3	32·0	22·4	25·0	17·5	26·55	18·58	28·0	19·6	30·5	21·35
Mineral Matter	21·7	15·2	21·3	14·9	18·3	12·8	12·6	8·8	18·75	13·12	21·5	15·05	25·0	17·5
Loss on ignition ..	6·8	4·8	9·1	6·4	13·7	9·6	12·4	8·7	7.8	5·46	6·5	4·55	5·5	3·85
Oxygen absorbed in two hours at 80° F.	·0216	·015	·0183	·0128	·0312	0·22	·0274	·0192	—	—	·03	·021	·048	·0336
Nitrites	nil		nil		nil		nil		nil		nil		nil	
Lead	nil		nil		nil		nil		nil		nil		nil	
Colonies per cc on Gelatine at 22° C. ..	10	..	20		15		—		—		21		—	
Colonies per cc on Agar at 37° C. ..	5	..	6		2		—		—		8		—	
MacConkey's Bile Salt broth (B. coli test) 25cc water used	Gas:—	—		—		—		—		—		—		—
	Acidity:—			—		—		—		—		—		—

Sewerage, Drainage, Scavenging, etc.

All these matters are reported upon annually by the City Engineer to the Sanitary Committee, and the Report is published.

Parks and Open Spaces.

The Parks and Open Spaces available for the recreation of the people comprise in all 800 acres, including Clifton and Durdham Downs, which have a combined area of 442 acres.

Of the 800 acres, 358 are laid out as parks, gardens, or playgrounds; but the public has the right to wander over about 603 acres. Wicket pitches are allowed on Durdham Down and in five of the parks, where also Bowling Greens, Tennis Courts, and Quoit Grounds have been laid out. In two parks lakes are provided with boats. The net annual cost of the Parks and Open Spaces is about £7,600.

Medical Inspection in Public Elementary Schools.

The number of children attending the Board Schools in September, 1897, before the extension of the City, was 18,077, and attending other schools was 21,868; or a total of 39,945. In 1898 the City was enlarged, a further enlargement took place in 1904, and by the 1st January, 1911, the total number of scholars on the registers of the schools controlled by the Education Committee was 60,468.

	No. of Schools.	No. of Children on Registers.
Council Schools	43	39,966
Church of England Schools ..	42	18,024
Wesleyan Schools	1	696
Roman Catholic Schools ..	5	1,423
Schools for Mentally and Physically Defective	2	359
Industrial Schools	2	
Deaf Institution	1	
	96	60,468

am informed that there were 71 children under three years of age on the registers of the Public Elementary Schools in October, 1910. Since 1905 the Education Committee have excluded children under five years of age from certain schools.

In some of the poorer districts, however, children under five are admitted.

The number of children under eight years of age on the registers of the Public Elementary Schools in October, 1910, was 23,966, and of that number, 4,502 were under five years of age.

Medical inspection of school children, for strictly limited purposes, has been provided by the Education Committee, under the Education (Administrative Provisions) Act, 1907, independently of the Health Committee.

The City has been divided into five districts, to each of which a part-time Medical Officer, in general practice, has been appointed, who devotes three school half-days, of two and a half hours each, per week to the work. During the past year Dr. Green has been appointed School Medical Officer.

The work was commenced on September 1st, 1908, the first month being utilised in a general survey to discover cases of under-feeding in some of the poorest districts, in view of the scheme for providing meals since adopted by the Committee.

Two whole-time Health Visitors or Nurses have been appointed, each taking one of the two school groups into which the Schools in the City have been divided ; these Nurses are chiefly engaged, under medical instructions, in attending to the dirty heads, discharging ears, and general conditions of cleanliness ; they also visit the homes and advise the parents.

The School Medical Officers now make a detailed examination of the hygienic condition of the schools.

The School Medical Officer issues a separate report.

Co-relation of the School Medical Service with the Public Health Service.

In 1905, as there were then no School Medical Officers, and it was desirable that the Teachers should co-operate with the Health Department in dealing with communicable diseases in schools, the Education Committee adopted certain Regulations under which the Head Teacher has to forward a card to the Medical Officer of Health giving notice of any case of known or suspected sickness in the school. These regulations were especially designed to secure early information as to Measles, Whooping Cough, Chicken-pox, German Measles, or Mumps, which, as they are not notified by Medical Practitioners, may readily escape notice, though they form a considerable proportion of school illness.

Upon receipt of the cards from the Head Teachers, general inquiries are made at the affected houses by the District Inspectors, and precautionary notices left. The card is returned to the school with the provisional date for return marked upon it.

The Education Committee were advised to adopt these Regulations in 1905, not as a satisfactory solution of the question of dealing with communicable disease in schools, but as a temporary expedient until Medical Officers of schools were appointed.

Up to the present, Measles epidemics, which recur periodically, have not been satisfactorily controlled, as it has been found to be impracticable, without being in daily Medical touch with the schools, to detect the very earliest cases ; and if these are missed subsequent control is impossible. The best of Teachers are generally a few days too late in detecting the early Measles cases, and it is just these few days that matter. In the most recent Education Code, the power of voluntary school closure or exclusion of particular scholars is definitely given to the

School Medical Officer, with whose duties in this respect the Medical Officer of Health cannot interfere, except through the Health Committee; and the control of Measles must be initiated at the schools, and, if it is to be effectual, by the School Medical Officer.

In the case of Diphtheria or Scarlet Fever in schools, as with Measles, the duties of the Medical Officer of Health and of the School Medical Officer meet, but it is not quite clear, as yet, how they blend.

Before the appointment of School Medical Officers, it became necessary, upon the outbreak of Diphtheria in a school, to secure special Medical assistance, in order to make an individual examination of whole classes, or of whole schools; this assistance was provided by the Health Committee, as there were no School Medical Officers, but the work would seem to be essentially a work of school medical inspection.

At present the School Medical Inspecting Staff is not strong enough to undertake the heavy strain of such epidemic work; and the Health Department has no means of doing it except by the provision of special medical assistance; it cannot be effectually done first by one at the inception of an outbreak, and then, upon its wide extension, by the other, for such divided counsels would, perhaps, result in trouble. It would be well to clearly understand what is, in the opinion of the Central Education Authority, the proper adjustment of the duties of the Education and Health Authorities in regard to epidemic disease amongst scholars in school, and this does not appear to be made much clearer by the Memorandum on Closure of and Exclusion from School, published in 1909.

Meanwhile the Health Committee continue the action taken before the appointment of School Medical Officers.

The following table shows the number of cases of non-notifiable diseases forwarded to the Medical Officer of Health.

1910.

	1st Quarter ending	2nd Quarter ending	3rd Quarter ending	4th Quarter ending 31st Dec.	Total
Measles	303	282	99	85	769
Chicken-pox ..	146	224	57	119	546
Whooping Cough	101	88	30	84	303
Mumps	101	108	19	276	504
Suspicious Throats & Rashes	7	8	19	26	60
	658	710	224	590	2,182

The following Table shows the number of cases of Non-notifiable diseases reported to the Medical Officer of Health from the various schools :—

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Air Balloon Hill, (C.)	15	—	4	—	3
Anglesea, (C.)	7	9	20	2	—
Ashley Down, (C.)	6	2	64	7	1
Ashton Gate, (C.)	—	1	18	4	—
Avonmouth, (V.)	45	—	—	19	—
Avon Vale, (C.)	14	12	4	1	—
Baptist Mills (C.)	4	3	1	2	1
Barleyfields, (C.)	12	12	8	7	2
Barton Hill, (C.)	6	1	8	7	1
Bedminster Bridge, (C.)	11	—	—	2	1
Bedminster Down, (C.)	26	9	1	22	—
Bedminster National, (V.) ..	14	38	10	—	—
Berkeley Place, (V.), Jacobs Wells	0	16	0	1	—
Bishop Road, (C.)	7	—	10	35	—
Castle, (C.)	—	1	—	8	—
Chester Park, (C.)	8	—	—	—	—
Clifton National, Clifton Wood..	—	4	—	2	—
Cutler's Hall, (V.), Rosemary St.	—	1	23	—	—
Day Industrial, Temple Backs ..	1	—	—	—	—
Downend Road (temp.), (C.) ..	5	—	—	—	—
Easton Road, (C.)	48	12	3	—	—
Eastville Boys', (C.)	6	1	1	3	1
Emmanuel, (V.), Louisa Street	—	2	—	3	7
Brought forward ..	235	124	175	125	17

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Brought forward ..	235	124	175	125	17
Fishponds College Practising School (Girls)	1	—	—	—	—
Fishponds College Practising School (Infants)	18	2	2	3	—
Greenbank, (C.)	56	—	—	—	—
Hannah More, (V.)	5	1	7	8	
Holy Cross, R.C., (V.)	1	5	—	—	—
Holy Trinity, (V.), Hotwells ..	—	6	1	5	—
Hotwells, (C.), Hope Chapel Hill..	3	3	2	10	—
Knowle, (C.)	3	23	5	37	—
Luckwell, (C.)	16	2	10	22	16
Marlborough Hill, (V.)	4	—	—	—	1
Merrywood, (C.)	—	6	5	—	—
Mina Road, (C.)	2	—	8	—	1
Moorfields, (C.)	11	4	5	2	—
Newfoundland Road, (C.) ..	—	—	—	—	1
North Street Wesleyan, (V.) ..	—	—	3	24	—
Portland, (C.), Kingsdown ..	1	—	2	—	—
Redcliff Endowed, Infants, (V.)	—	1	—	1	—
Redcross Street, (C.)	10	—	2	5	—
Redfield, (C.)	22	8	7	2	—
Rose Green, (C.)	1	—	4	—	—
Russell Town, (C.)	—	—	2	—	—
St. Anne's, (C.)	30	—	—	33	—
St. Augustine's, (V.), Wells St.	1	2	6	2	—
St. Barnabas, (V.)	1	6	13	1	—
Carried forward ..	421	193	259	280	36

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Brought forward ..	421	193	259	280	36
St. Bonaventure, R.C., (V.) ..	—	—	—	6	—
St. Gabriel's, (V.), Easton ..	6	—	—	—	—
St. George, (C.)	—	—	—	—	2
St. George's, (V.), Brandon Hill	—	—	21	2	—
St. James, (V.), St. James' Barton	15	8	2	1	2
St. John's, (V.), Durdham Down	—	—	6	—	—
St. Jude's, (V.)	4	—	7	—	—
St. Luke's, (V.), Barton Hill ..	1	—	—	1	1
St. Luke's, (V.), Weare Street ..	—	—	—	3	—
St. Luke's Institute, (V.) William Street	5	—	7	2	—
St. Mark's, (V.), Easton ..	6	—	1	1	—
St. Mary-on-Quay, R.C., (V.) ..	27	1	7	—	—
St. Matthew's, (C.), Kingsdown..	1	5	—	—	—
St. Matthias, (V.), Broad Weir	15	—	3	—	—
St. Michael's, (V.), Old Park ..	4	—	8	—	2
St. Nicholas, R.C., (V.)	1	—	1	—	—
St. Nicholas & St. Leonard's, (V.)	1	—	16	3	1
St. Paul's, (V.), Dean Lane ..	8	—	9	—	—
St. Paul's, (V.), Portland Sq. ..	—	—	1	—	—
St. Philip's, (C.), Freestone Road	48	5	10	18	4
St. Philip's Church, (V.) ..	18	10	4	17	5
St. Saviour's, (V.), Woolcott Park	1	—	3	—	—
St. Silas, (V.), St. Philip's Marsh	1	—	—	—	—
St. Simon's, (V.), Baptist Mills	1	—	5	78	3
Sefton Park, (C.)	18	5	3	—	1
Carried forward ..	602	227	373	412	57

Schools.	Measles.	Whooping Cough.	Chicken Pox.	Mumps.	Rashes, Throats, etc.
Brought forward ..	602	227	373	412	57
Shirehampton, (V.)	2	—	10	1	—
South Street (C.)	15	13	34	12	—
Stapleton, (V.)	—	—	26	—	—
Stoke Bishop, (V.)	—	—	1	—	—
Summerhill, (C.)	9	14	7	—	—
Sussex Street, (C.)	1	11	4	1	1
Temple Colston, (V.), Temple ..	1	3	3	9	—
Two Mile Hill, (C.)	1	—	4	—	—
Victoria Park, (C.), St. John's Lane	2	2	29	8	—
Victoria Road (temp.)	—	—	1	—	—
Wells Road, (C.)	1	18	—	35	—
Westbury-on-Trym, (V.) ..	1	—	—	1	1
Westbury Park, (C.)	13	—	—	—	1
Whitehall, (C.)	36	—	12	5	—
Wick Road, (C.)	43	—	5	—	—
Windmill Hill, (C.)	42	15	37	20	—
TOTALS ..	769	303	546	504	60

NOTE.—Fourteen cases of Ringworm were also reported from various Schools.

GRAND TOTALS.

Measles	769
Whooping Cough	303
Chicken Pox	546
Mumps	504
Rashes, Throats, etc. ..	60
Ringworm	14
	2,196

No returns of any of these diseases have been received from the following schools during the year 1910 :—

Christ Church (V.), Victoria Street.
Dr. Bell's (V.), Fishponds Road.
Easton (C.)
Eastville, Girls' and Infants'.
Fairfield (C.)
Horfield (V.)
Hotwells National (V.)
Park Place, R.C. (V.)
Parson Street (C.)
Redcliff Endowed Boys'
Redcliff, Girls' and Infants'.
St. George National (V.)

Housing of the Working Classes.

The following Table shows the action taken over a period of 20 years :—

Date.	No. of Houses dealt with.	No. of Houses closed.	No. of Houses made habitable.
1890	35	30	5
1891	72	27	45
1892	26	18	8
1893	2	0	2
1894	34	18	16
1895	31	18	13
1896	28	10	18
1897	4	3	1
1898	9	7	2
1899	33	31	2
1900	21	6	15
1901	6	1	5
1902	64	61	3
1903	67	58	9
1904	34	16	18
1905	28	11	17
1906	9	9	0
1907	18	15	3
1908	30	12	18
1909	17	9	8
Total ..	568	360	208

Housing, Town Planning, &c., Act.

The action taken under the provisions of this Act is set forth here :—

- Total number inspected, 611.
  - Found defective 402.
    - 18 Closed under order.
    - 55 Closed voluntarily.
    - 235 Made habitable.
    - 94 In hand).
  - No action necessary, 209 (1 closed voluntarily for building improvements.

Of the 74 closed 25 houses were subsequently voluntarily demolished.

Municipal Lodging House.

This Lodging House was opened on April 20th, 1905.

The total number of nightly occupations from the 26th March, 1910 to the 25th March, 1911, was 31,064, or an average of 85 lodgers per night during the whole of the period under notice, the total number of beds available being 120. The house was opened on 20th April, 1905, with 60 beds, and continued with this number until the 17th September, 1905, the average number of lodgers per night during that period was 42. On the 17th September, 1905, the number of beds was increased to 120 and the average nightly occupations from that date to 25th March, 1906, was 74.

Mortuaries.

Quakers' Friars, off Merchant Street, *post mortem* Examination Room and Coroner's Court adjoining.

In addition to the above, there are Mortuaries for Police purposes at Bedminster and Redland Police Stations.

A new Mortuary has been constructed at Avonmouth.

The Midwives' Act, 1902.

The Council of the City of Bristol on 10th November, 1902, deputed the working of this Act to the Watch Committee (Police). I have no information as to the working of the Act, but the question of transferring the administration of this Act to the Health Committee is now under consideration of a Joint Sub-committee of the Health and Watch Committees.

Thirty-nine notifications of Puerperal Fever have been notified during the year, and fourteen deaths have been reported.

In 23 instances the Midwives in attendance on the cases have had disinfecting baths under the superintendence of a Nurse, and in five instances their instruments have been thoroughly cleansed and disinfected, and in one instance destroyed and replaced.

Notification of Births Act, 1907.

This Act, which is adoptive, provides for the notification of every birth, within 36 hours, to the Medical Officer of Health.

As a penalty attaches to default, and Medical practitioners become liable, some opposition has been manifested to the adoption of the Act.

The Local Government Board will not approve of the adoption of the Act unless satisfactory means are provided for giving effect to its intention :—viz., the extension of advice and assistance to poor mothers in the proper feeding and care of their infants. This involves the appointment of Female Health Visitors.

Most of the information in regard to these cases where assistance would be useful would come through Midwives rather than Medical Practitioners, and it is obviously important that the control of the Midwives and of the Health Visitors should be vested in the same Committee.

A joint sub-committee of the Health Committee and the Watch Committee are considering the question of the administration of the Midwives' Act in conjunction with the Notification of Births Act, and it is not, therefore, at present evident whether this Act, if adopted, will be administered by the Health Committee or by the Watch Committee who at present control the Registration of Midwives.

AMBULANCE SERVICE AVAILABLE IN THE CITY OF BRISTOL.

Property of	Address.	Telephone No.	Telegrams.	Class of Cases Removed.	Office Hours.	Method of obtaining Ambulance.
Corporation of Bristol ...	40 Prince Street	789	"Hygiene, Bristol"	Fevers	9.30-5 ... .. Except { Sat., 9.30-1 Sun., 12-1	By Notification to the M.O.H.
Bristol City and Marine Ambulance Corps	37 Coronation Road	1228 (calls by day and night)	"Ambulance, Bristol"	All except Infectious Diseases	Day and Night ...	By communicating with the Hon. Sec, Capt. J. F. Trezise, 37 Coronation Rd.
Ditto ditto ...	Seamen's Institute, Prince Street	1694 (calls by day and night)	Ditto	Ditto	Ditto	Ditto, or to Rev. Norman de Jersey, Seamen's Institute. Prince Street.
St. John Ambulance Brigade (City of Bristol Corps)	Unity Street, St. Philip	2400 (Ambulance)	"Accident, Bristol"	Ditto	Day and Night ...	By communicating with the Hon. Sec., J. Maynard Froud, Esq., Transport Station, Unity St., St. Philip.
Bristol Tramway & Carriage Company	Brunswick Square Depôt ...	335	Cab (Brunswick Square)	Special Cab retained for Infectious Diseases	Ditto	Ring up or Wire.

The St. John Ambulance Brigade deals with the Street Casualties; the Bristol City and Marine Ambulance Corps deals with the Dock work, Bristol South, and Subscribers.

AMBULANCE RECORD.—1910.

INFECTIOUS CASES REMOVED.

Month.	Cases Removed (Total).	Cases Removed (Average Daily).	Journeys.	Mileage (Total).	Mileage (Average Daily).
January ..	94	3·0	65	946	30·5
February ..	104	3·7	65	937	33·4
March ..	79	2·5	56	833	26·8
April ..	89	2·9	64	931	31·0
May	73	2·3	48	744	24·0
June ..	104	3·4	61	928	30·9
July ..	103	3·3	58	908	29·2
August ..	91	2·9	53	845	27·2
September	153	5·1	72	1043	34·7
October ..	103	3·3	56	739	23·8
November	130	4·3	62	900	30·0
December ..	104	3·3	60	863	27·8
(Totals)	1227	3·36 (Average Daily).	720	10,617	29·08 (Average Daily).

DISINFECTION STATION AND AMBULANCE SERVICE.

The Disinfection Station is on the site formerly occupied by the City Small-pox Hospitals in St. Philip's Marsh, and the buildings now comprise :—

(1) Disinfecting Block containing two Steam Disinfecting Machines, Receiving Room, Clearing Room, and a Boiler House.

These rooms have been erected for some years, and are sufficient for the purpose, except that the Boiler House would be more convenient if a little larger. No laundry is attached, as this was deleted from the original plans.

(2) The new stable buildings, completed in 1906, comprise stalls for eight horses and two loose boxes. The stabling is of modern construction, fairly lighted and well ventilated, and has enough accommodation to meet the requirements of the Ambulance and Disinfecting Services. Near to the stable is a small forage room, and a harness room which is also used as a mess room and offices.

The stable was so designed that conversion to a motor house would be simple and inexpensive.

The old sheds have been enlarged and adapted to serve as coach house and cart shed.

It is contemplated to remove the Ambulance Service from Clift House Stables, where there is cottage accommodation for both the ambulance driver and the stableman.

In October, 1909, a Motor Van commenced running for the collection of infected articles. This Motor Van displaced the services of two drivers, and also dispensed with the work of two horses. It is worked in conjunction with a horse delivery cart for the return of articles after disinfection. Only one horse is now attached to the Disinfecting Service. The caretaker of the Disinfecting Station is driver of the motor van.

The following accommodation is provided for the Ambulance Nurse and the Caretaker :—

CARETAKER.—(Ground Floor)—Sitting-room and office, kitchen, scullery, offices, &c.

(First Floor)—One bedroom and use of bathroom, &c.

AMBULANCE NURSE.—(First Floor)—One sitting-room, one bedroom, and use of bathroom, &c.

ISOLATION ROOMS, under the Infectious Disease (Prevention) Act—Four rooms, viz. :—

(Ground Floor)—Kitchen, sitting-room, scullery, bath room, offices.

(First Floor)—Two bedrooms.

This accommodation is provided in one building ; the Isolation Rooms being self-contained and under the supervision of the Caretaker.

The accommodation was completed in 1909, and has been in occupation since October of that year.

VACCINATION.

The 1909 returns are the last complete ones available. I am indebted to the Clerk of the Bristol Union for the following information:—

	BRISTOL UNION.
Vaccination.	
Number successfully vaccinated up to 31st January, 1911......	4,281
Insusceptible..........................	15
Died unvaccinated	662
Postponed by Medical Certificate	165
Certificates of Conscientious Objection	1,396
Removed to Districts, the Vaccination Officer of which has been duly apprised	240
Cases left and not traceable.........	920
In abeyance	865
Births registered in 1909	8,544
* Percentage of successful vaccination to births	50·10

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* A special return of Certificates of successful primary vaccinations at all ages received in each of the calendar years 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, and 1908 was furnished at the request of the Local Government Board, and showed as follows:—Certificates received in 1900, 5,917; in 1901, 5,776; in 1902, 6,8 8; in 1903, 6,972; in 1904, 7.413; in 1905, 7,253; in 1906, 6,870; in 1907, 6,464; in 1908, 5.092; in 1909, 5,377; and in 1910, 4,367.

***Bristol Union.**—Summary of persons relieved on the following dates: the first named date (1st April, 1898) being the date of the formation of the Union for the City and County of Bristol.

	1st April. 1898.	1st April, 1899.	1st April, 1900.	1st April, 1901.	1st April, 1902.	1st April, 1903.	1st April, 1904.	1st April, 1905.	1st April, 1906.	1st April, 1907.	1st April, 1908.	1st April, 1909.	1st April, 1910.	1st April, 1911.
In Workhouses and Children's Homes	2,357	2,281	2,305	2,408	2,355	2,388	2,513	2,578	2,528	2,653	2,745	2,855	2,944	2,874
In Institutions, &c.	114	116	127	127	148	155	149	159	146	148	135	125	123	139
In Lunatic Asylums	826	824	810	830	847	856	859	869	875	881	863	831	859	883
Out-door poor ...	7,796	6,409	5,847	5,837	5,845	5,829	6,030	6,425	6,116	5,921	5,696	5,585	5,764	4,280
	11,093	9,630	9,089	9,202	9,195	9,228	9,551	10,031	9,665	9,603	9,439	9,396	9,690	8,176
Weekly cost of Out-relief	£724 6 1	£683 14 11¾	£644 14 7	£662 18 4¾	£697 16 9½	£710 0 10½	£746 4 3½	£803 19 8	£792 12 2½	£765 14 1½	£756 8 3	£765 13 4	£785 6 5	‡£504 0 10

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* The Union was much increased in area and population in October, 1904.

‡ The reduction is due to the large number of cases transferred to the Old Age Pension List.

Medical Officer of Health's Department.

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CLERICAL RETURNS.

Number of letters and documents received at and despatched from the Office.

	1904 Estimated for Special Report.		1905		1906		1907		1908		1909		1910.	
	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In	Out	In.	Out.	In.	Out.
M.O.H. ..	4,481	5,490	10,603	15,104	9,124	8,727	9,417	8,475	9,000	8,144	10,420	12,742	12,755	15,656
Infectious Disease	20,037	36,605	14,280	19,859	12,488	17,990	14,519	20,874	11,496	16,177	10,704	13,977	11,473	15,354
Hospitals	2,816	3,465	3,025	2,810	3,214	3,055	4,746	3,883	3,290	3,111	4,604	4,850	4,491	8,311
Inspectors	3,485	2,656	6,250	5,959	5,802	4,505	5,943	4,201	4,124	3,744	5,689	5,357	12,555	15,444
Port ..	633	1,058	962	1,003	1,056	957	1,768	1,905	1,337	1,670	3,237	3,636	2,666	3,022
TOTAL ..	31,452	49,274	35,120	44,735	31,684	35,234	36,393	39,338	29,247	32,846	34,654	40,562	43,940	57,787
	80,726		79,855		66,918		75,731		62,093		75,216		101,727	

1910—1911.

Baths and Wash-houses.

The following figures are returned for the year's work :—

Year ended 25th March, 1911.	No. of Bathers Swimming Baths.	Private Baths.	Women Washing Clothes.
"Victoria," Clifton (Baths only)	14,007	2,725	...
"Royal," Kingsdown (Baths only)	42,867	...	...
Broad Weir	31,449	26,149	13,307
Mayor's Paddock, New Cut	34,953	25,394	15,399
Jacob's Wells (Baths only)	38,788	20,553	...
Rennison's (Swimming Bath only)	8,060	...	...
Barton Hill	68,327	30,576	...
Eastville Park (Swimming Bath only)	12,178	...	...
Victoria Park (Swimming Bath only)	6,928	...	...
Greville Park (Swimming Bath only)	6,014	...	...
Total ...	263,571	105,397	28,706

1909-10	292,689	101,459	27,019
1910-11	263,571	105,397	28,706
	− 29,118	+ 3,938	+ 1,687

(Up to March 25th, 1911).

Particulars supplied by Mr. J. KANE

Mr. Edward Russell, B.Sc., F.I.C., City Analyst, has kindly supplied the following returns for 1910.

"FOOD AND DRUGS ACTS."

During the year 1,300 samples were submitted for analysis; all the samples were received from the Inspector.

The following Tables show the nature and number respectively of the samples submitted, with the number reported genuine and the number adulterated:—

Number of samples	examined	1,300
,, ,, ,,	genuine	1,219
,, ,, ,,	adulterated	81

Article.	Number Examined	Number Genuine	Number Adulterated.	Per cent. Adulterated.
Milk	647	586	61	9·43
Milk (skim)	9	9	0	0
Condensed Milk	6	6	0	0
Butter	310	302	8	2·58
Margarine	30	30	0	0
Cheese	17	15	2	11·76
Cream	4	4	0	0
Lard	15	15	0	0
Lard Substitutes	4	4	0	0
Spirits	50	43	7	14·0
Sugars	28	28	0	0
Wheaten and other Flours	35	35	0	0
Vinegar	9	8	1	11·1
Coffee	20	20	0	0
Coffee and Chicory Extract	5	5	0	0
Cocoa and Chocolate	7	5	2	28·6
Pepper	9	9	0	0
Mustard	8	8	0	0
Tinned Fruits	6	6	0	0
Tea	10	10	0	0
Mineral Waters	4	4	0	0
Cider	2	2	0	0
Soup Powder	3	3	0	0
Egg Powder	1	1	0	0
Lemonade Powder	1	1	0	0
Baking Powder	1	1	0	0
Desiccated Cokernut	1	1	0	0
Drugs	44	44	0	0
Bloater Paste	2	2	0	0
Jellies (Gelatine)	3	3	0	0
Spices	4	4	0	0
Contents of Milk Cans	1	1	0	0
Gravy Salt	1	1	0	0
Beer	3	3	0	0
	1300	1219	81	6·23

The working of these Acts in the City of Bristol is entrusted to an Inspector acting under the Watch Committee and is not administered by the Health Committee.

METEOROLOGICAL OBSERVATIONS AT BRISTOL.
1910.

January.—The new year opened with dull and most unseasonable conditions, the weather being unduly warm and mild ; while the first nine days only yielded one single hour of bright sunshine. During this period anticyclonic conditions prevailed, but from the 9th to the close of the month a succession of cyclonic storms brought constant changes. At first the weather still remained warm, but after the 20th much colder conditions were the rule.

The mean temperature (max. and min.) was 39·5 degrees, this being 0·7 degrees above the average. The maximum reading was 52 degrees on the 15th and 16th, and the minimum 20 degrees on the 27th—a range of 32 degrees. The warmest day was the 15th, with a mean temperature of 47 degrees ; and the coldest the 26th, mean 26 degrees. Twelve frosty nights were experienced.

The total rainfall at Clifton was 3·75 inches and at Frampton Cotterell 2·22 inches, falling upon 25 and 16 days respectively. The amount at Clifton shows an excess of nearly an inch.

Mean atmospheric pressure at 9 a.m. was 29·888 inches, a value much below the average. The maximum reading was 30·572 inches on the 7th, and the minimum 28·753 inches on the 24th.

February.—With one exception, which occurred so short a while ago as 1900, when Mr. R. F. Sturge, F.R. Met. Soc., registered 6·40 inches, this month brought the heaviest rainfall in its record to this neighbourhood. In addition to this unenviable characteristic the month was rendered memorable by the violence and frequency of its gales, these causing widespread damage to property and much loss of life.

The mean temperature was 42 degrees, over two above the average and nearly five above that of the month in 1909. The maximum was 52 degrees on the 17th, and the minimum 31 degrees on the 4th—a range of only 21 degrees. The warmest day was the 18th with a mean temperature of 48 degrees, and the coldest the 9th, mean 36 degrees. Five frosty nights were experienced.

The rainfall locally varied from 5·06 inches at Clifton to 3·69 inches at Frampton Cotterell, falling upon 23 and 21 days respectively. The excess exceeded 2½ inches.

Mean atmospheric pressure was 29·628 inches, a value three-tenths of an inch below the average of the past twelve years. The maximum reading was 32·272 inches on the 9th, and the minimum 29·005 inches on the 19th.

March.—Considering the sort of weather the few preceding months had contributed, March brought conditions which could scarcely be improved upon; its abundance of sunshine and drying winds being just what was wanted to put the land into condition. At first the weather, although bright and sunny, was somewhat changeable and the temperature high, but following a miniature blizzard of snow on the 18th, no rain whatever fell, while sharp frosty nights were frequent.

The mean temperature was 43·7 degrees being 1·3 degrees above the average and nearly six degrees above that of the month in 1909. The maximum recorded was 57 degrees on the 7th and 30th, and the minimum 29 degrees on the 16th—a range of 28 degrees. The warmest day occurred on the 8th, with a mean temperature of 51 degrees; and the coldest on the 12th, mean 36 degrees. Ten frosty nights were experienced.

The rainfall at Clifton amounted to 0·67 inch, and at Frampton Cotterell to 0·53 inch; falling upon 11 and 9 days respectively. These values show a falling off from the average of nearly two inches.

Mean atmospheric pressure was 30·170 inches, this figure being much in excess of the normal. The maximum reading was 30·584 inches on the 23rd, and the minimum 29·769 inches on the 10th.

April.—Following such a month as its immediate predecessor, April proved most disappointing, only two sunny days being recorded against fifteen in March, while there were no less than nine during which the sun did not put in an appearance. Its rainfall also was excessive and its temperature deficient, so that in every way there was little that could be said in its favour.

The mean temperature was 46·9 degrees, just one below the normal. The maximum was 61 degrees on the 21st, and the minimum 31 degrees on the 3rd—a range of 30 degrees. The warmest day was the 21st, with a mean temperature of 53·5 degrees ; and the coldest the 2nd, mean 40 degrees. Four frosty nights occurred locally.

The total rainfall varied from 2·85 inches at Clifton to 2·09 inches at Frampton Cotterell ; falling upon 20 and 17 days respectively. The value at Clifton shows an excess of just over half an inch.

Mean atmospheric pressure at 9 a.m. was 29·856 inches, these figures being decidedly below the average. The maximum recorded was 30·497 inches on the 1st, and the minimum 29·073 inches on the 13th.

May.—The weather was divided into two sharply contrasting periods. The first commenced on the 3rd and came to a close on the 11th, during which time most cold and inclement conditions prevailed ; the last three days especially bringing night frosts of exceptional severity. From then onward, however, most favourable weather prevailed, temperature being high and sunshine abundant.

The mean temperature was 54·4 degrees, nearly one degree above the average. The maximum was 76 degrees on the 23rd, and the minimum 33 degrees on the 9th—a range of 43 degrees. The warmest day occurred on the 23rd, with a mean temperature of 63 degrees ; and the coldest on the 8th, mean 42·5 degrees. Three frosty nights occurred locally.

The total rainfall recorded was 1·98 inches at Clifton and 1·78 inches at Frampton Cotterell, falling upon 19 and 22 days respectively. These values show a deficiency of a quarter of an inch.

Mean atmospheric pressure at 9 a.m. was 29·892 inches, these figures being below the average. The maximum reading was 30·371 inches on the 1st, and the minimum 29·437 inches on the 31st.

June.—This month opened with very remarkable weather. At first, in spite of a very low barometer, fair rainless conditions prevailed, but on the 5th with a decided increase of pressure a period of heavy rains set in, accompanied by thunderstorms of most exceptional severity. One remarkable feature of this period was the fact that on three separate occasions tremendous storms passed across this district during the early morning hours, the dates being the 6th, 7th, and 10th. After the 12th a great improvement set in, fine, dry, but never very hot weather prevailing to the 21st, but after this date very inclement conditions prevailed to the close.

The mean temperature was 59·8 degrees, a value slightly above the normal and nearly five degrees above that of the month in 1909. The maximum was 79 degrees on the 20th, and the minimum 46 degrees on the 4th and 14th—an extreme range of 33 degrees. The warmest day was the 20th, with a mean temperature of 69·5 degrees , and the coldest the 30th, mean 56 degrees.

The rainfall totalled 5·43 inches at Clifton and 4·87 inches at Frampton Cotterell ; falling upon fifteen days. These figures show an excess of three inches. Both upon the 5th and 9th over an inch fell within the twenty-four hours.

Mean atmospheric pressure was decidedly deficient, the figures at 9 a.m. being 29·899 inches. The greatest pressure recorded was 30·383 inches on the 15th, and the least 29·479 inches on the 25th.

July.—A very unsettled month with a far greater proportion of rough windy weather than is usual in the summer time. Still, in spite of this, the rainfall showed a decided deficiency, and with a little more sunshine and a little less wind the month might well have been of a decidedly favourable character.

The total rainfall locally varied from 2·14 inches at Clifton, to 1·99 inches at Frampton Cotterell ; falling upon fourteen and ten days respectively. These amounts show a deficiency of about three-quarters of an inch.

The mean temperature was 59·8 degrees, a value nearly two and a half degrees below the average. The maximum recorded was 77 degrees on the 14th, and the minimum 46 degrees on the 4th, showing a range of 31 degrees. The warmest day was the 14th, with a mean temperature of 65·5 degrees ; and the coldest the 3rd, mean 54·5 degrees.

Mean atmospheric pressure at 9 a.m. was 29·884 inches, thus showing a decided deficiency. The maximum reading was 30·176 inches on the 13th, and the minimum 29·457 inches on the 25th.

August.—This proved to be the most unsettled and inclement month of a summer which throughout did not yield a single period of really summerlike conditions. Happily the earlier portion produced the fairest weather, for up to the 20th fairly pleasant days alternated with others of decided rainfall. On and after that date, however, rain fell every day, accompanied on many occasions by very strong winds for the time of year.

The mean temperature was 60·3 degrees, a value below the average. The maximum recorded was as low as 74 degrees on the 14th, and the minimum 49 degrees on the

21st and 29th—the range therefore being only 25 degrees. The warmest day was the 14th, with a mean temperature of 66 degrees; and the coldest the 28th, mean 56·5 degrees.

The rainfall at Clifton was 6·36 inches, and at Frampton Cotterell 5·59 inches; falling upon 26 and 19 days respectively. The excess over the average amounted to about 2½ inches. Upon the 28th the rainfall amounted to over one inch and three-quarters. Thunder storms were experienced on the 3rd, 15th, and 29th.

Mean atmospheric pressure was 29·878 inches, these figures being well below the average for the month. The maximum reading at 9 a.m. was 30·280 inches on the 31st, and the minimum 29·477 inches on the 29th.

SEPTEMBER.—This month showed a most striking and gratifying contrast to its immediate predecessors, the long wished for anti-cyclone which on the last day of August had appeared off our south-western coast spreading during the first few days over the whole of our islands. The weather, therefore, became fine and very dry, and with little exception such conditions prevailed right through the month. Although, however, the weather was most pleasant, the sky was seldom entirely free from cloud.

The mean temperature of the month was 57 degrees, this figure being just the average. The maximum recorded was 72 degrees on the 28th, and the minimum 37 degrees on the 21st. The warmest day was the 28th, with a mean temperature of 63 degrees; and the coldest the 20th, mean 47 degrees. In the country districts frost occurred on the 21st.

The total rainfall showed a remarkable contrast to that of August, only amounting to 0·28 inch at Clifton and 0·26 inch at Frampton Cotterell; the number of rainy days being five and three respectively. The average for the month at Clifton is just under three inches.

The mean pressure was above that of any other month of the twelve, the figures for 9 a.m. being 30·256 inches. The greatest pressure recorded was 30·498 inches on the 22nd, and the least 29·881 inches on the 29th. Apart from this last date the 26th was the only day with a reading below 30 inches.

October.—In spite of the fact that fine weather predominated up to the 20th, this month brought a rainfall far above the average. The reason for this was that when rain did fall, it fell in right good earnest, there being no fewer than eight daily values ranging from a quarter to over three-quarters of an inch. A striking feature was the persistence of north-easterly and easterly winds, a long continuance of wind from this quarter being of rare occurrence during the autumn months.

The rainfall at Clifton was 5·23 inches and at Frampton Cotterell 4·55 inches; falling upon 17 and 15 days respectively. These values show an excess in this locality of over 1¼ inches.

The mean temperature was 51·4 degrees. This, although much below that of either of the preceding Octobers, shows an excess of two degrees. The maximum recorded was 66 degrees on the 1st, and the minimum 40 degrees on the 20th—a range of 26 degrees. The warmest day was the 1st, with a mean temperature of 58·5 degrees; and the coldest the 14th, mean 45 degrees.

Mean atmospheric pressure was above the normal, the figures for 9 a.m. being 30·039 inches. The maximum was 30·551 inches on the 4th, and the minimum 29·707 inches on the 19th.

November.—In one respect this month bore a close resemblance to its immediate predecessor, each being responsible for a series of very heavy rainfalls. In another, however, the months were most dissimilar, for while October brought no frost whatever, sharp frosty nights were of unusual frequency during its successor. Indeed, to find so wintry an autumn month, it is necessary to go so far back as 1878 in which year the mean temperature at Clifton was 38·8 degrees. In many parts of our islands the wintry weather was also associated with frequent snowfalls, but locally the only occurrence of this nature was experienced during the early hours of the 26th, when a slight fall took place.

The mean temperature was 39·5 degrees, a value over four below the average. The maximum was 52 degrees on the 1st, and the minimum 26 degrees on the 17th—a range of 26 degrees. The warmest day was the 14th, with a mean temperature of 44·5 degrees ; and the coldest the 16th, mean 34·5 degrees. At Clifton 13 frosty nights were recorded, and at Frampton Cotterell 17.

The rainfall varied locally from 5·17 inches at Clifton to 3·91 inches at Frampton Cotterell ; falling upon 19 days. The value for Clifton shows an excess of over 1¾ inches.

Mean atmospheric pressure was very deficient, the reading for 9 a.m. being 29·671 inches. The maximum was 30·215 inches, occurring on the 19th, and the minimum 28·822 inches on the 17th.

December.—A very memorable month, opening with no fewer than 16 rainy days, the quantities in the majority of cases being considerable. Rain also fell upon each of the succeeding ten days, but the amounts were as a rule insignificant. In addition to its heavy rainfall a remarkable feature of the month was its almost continuously high temperature. Only upon two occasions did the shade thermometer register frost, whilst upon the other hand it touched or exceeded 50 degrees upon no fewer than 15 days.

The mean temperature was 43·7 degrees, being over four above the normal, and exactly that figure above that of the month of 1909. The maximum recorded was 52 degrees on the 15th and 16th, and the minimum 27 degrees on the 28th. The warmest day was the 15th, with a mean temperature of 48 degrees, and the coldest the 27th, mean 33 degrees. Only two frosty nights occurred in this locality.

The rainfall recorded at Clifton was 5·77 inches, and at Frampton Cotterell 4·26 inches ; falling upon 26 and 24 days respectively. The excess locally nearly reached 2½ inches.

The mean pressure was 29·687 inches, a value much below the average. The maximum recorded was 30·537 inches on the 31st, and the minimum 28·812 inches on the 10th.

Regarding the complete year, its general character was most disappointing, both spring and summer being of the most inclement description, quite unrelieved by any lengthy period of fine settled weather. Practically the only bright portions were the equinoctial months, the one of which provided agriculturists with the chance of giving crops the best of starts, and the other an ideal time for the ingathering of what proved in spite of all that came between, a fairly abundant harvest. The year will be chiefly memorable for the great thunderstorms of June, and the exceptional rainfall that marked the autumn months.

H. H. HARDING, F.R. Met. Soc.

For the rainfall values at Clifton, and also for those relating to temperature given in the foregoing notes, I am indebted to the courtesy of Mr. R. F. Sturge, F.R. Met. Soc.

The rainfall values for Clifton are taken at an altitude of 215 feet above sea level, and those for Frampton Cotterell at 166 feet.

Meteorology for the 52 Weeks, ending December 31st, 1910.

Height above Mean Sea Level—250 feet.

CLIFTON COLLEGE.

1910. Week Ending		BAROMETRIC PRESSURE at 30° and Sea Level Mean	Highest	Lowest	Mean Temperature	Highest Mean Daily Temperature	Lowest Mean Daily Temperature	Max. Temperature in Shade	Min. Temperature at 4ft above ground	Min. Temperature on ground	Mean Daily Range of Thermometer	Greatest Daily Range of Thermometer	Smallest Daily Range of Thermometer	Mean Humidity	Grains of Vapour in a cubic ft. of air	Prevalent Wind.
		Inches	Inches	Inches												
Jan.	8	30·36	30·44	30·21	42·9	47·2	38·7	51·0	36·0	36·5	6·2	12·8	2·8	94	3·06	S.
,,	15	30·05	30·44	29·63	43·4	48·7	36·5	54·0	33·0	27·0	9·9	17·0	3·5	86	2·88	S.W.
,,	22	29·76	30·09	29·56	40·5	48·6	34·4	53·0	28·2	22·9	8·3	12·5	4·6	87	2·73*	S.W.—N.W.
,,	29	29·29	30·00	28·77	34·3	38·9	28·5	45·6	19·5	16·6	11·9	25·5	4·4	85	2·30†	N.W.—N.E.
Feb.	5	29·74	30·04	29·31	39·9	43·0	34·6	51·1	29·2	24·0	9·8	18·0	4·1	84	2·49	N.W.—S.W.
,,	12	29·99	30·31	29·59	43·1	48·1	38·9	50·3	31·8	28·0	8·5	16·2	3·3	90	2·85	N.W.—S.W.
,,	19	29·45	30·12	28·99	48·8	58·5	41·1	53·4	35·2	29·9	11·0	16·9	3·4	82	2·84	W.—S.
,,	26	29·44	29·89	29·12	42·4	44·7	40·5	49·2	35·1	29·0	9·6	11·9	7·8	84	2·64	W.S.W.
Mar.	5	29·93	30·19	29·60	43·6	45·8	40·6	55·4	33·3	28·5	14·2	20·3	11·2	87	2·48‡	S.—S.E.
,,	12	29·94	30·12	29·78	46·0	50·1	39·3	54·9	33·1	27·1	10·2	18·0	5·8	85	3·04	S.—W.
,,	19	30·11	30·26	29·86	40·4	45·8	39·1	50·5	30·1	24·0	14·3	19·2	5·1	77	2·24	N.W.
,,	26	30·42	30·61	30·22	44·7	47·5	43·1	54·8	31·6	26·9	14·7	22·5	6·1	86	2·76	N.E. by E.
April	2	30·45	30·61	30·27	42·8	45·6	39·5	54·1	30·8	25·2	17·9	26·0	16·3	76	2·27	N.E.
,,	9	29·93	30·15	29·71	42·4	46·8	40·1	55·2	32·1	26·4	11·1	16·8	7·0	81	2·48	N.E.
,,	16	29·60	30·13	29·29	47·5	51·9	43·0	57·7	37·8	32·1	10·5	19·2	1·8	79	3·23	S.E.
,,	23	30·10	30·31	29·89	50·1	53·1	44·9	58·0	39·4	34·1	7·7	11·1	3·5	78	3·28	W.—N.W.
,,	30	29·85	30·33	29·38	46·4	50·3	44·5	55·5	36·8	31·9	12·9	17·2	8·9	65	2·55	W.—N.W.
May	7	29·95	30·42	29·58	49·1	54·9	45·7	59·8	38·5	34·8	12·2	17·1	7·0	76	3·08	N.W.—W.
,,	14	29·92	30·20	29·63	56·3	55·4	46·3	71·3	42·3	36·4	14·3	21·4	7·8	79	3·28	N.N.N.E.
,,	21	29·79	30·00	29·64	58·9	62·0	56·6	74·3	45·3	40·8	17·1	24·5	11·0	83	3·99	N.E.—S.E.
,,	28	30·17	30·33	30·00	60·1	64·8	54·0	76·6	44·4	41·2	19·7	27·5	14·4	70	3·96	N.—N.N.E.
June	4	29·74	29·94	29·46	56·4	59·4	52·2	67·5	46·1	41·9	14·0	19·9	7·9	74	3·85	W.—S.
,,	11	29·90	30·06	29·72	60·8	66·0	56·3	76·1	48·2	45·1	13·3	21·7	7·1	85	4·75	N.E.
,,	18	30·23	30·40	29·92	60·0	65·7	55·5	74·1	47·2	40·1	16·8	21·4	11·9	73	4·21	N.W.—N.E.
,,	25	29·87	30·33	29·36	62·5	68·7	59·2	81·3	52·9	46·7	14·8	25·2	8·0	77	4·96	W.

* Average for 6 days. Wet bulb frozen Saturday.
† Average for 4 days. Wet bulb frozen Tuesday, Wednesday and Thursday.
‡ Average for 6 days. Wet bulb not read on Sunday.

Meteorology for the 52 Weeks—Continued.

Height above Mean Sea Level—250 feet.

CLIFTON COLLEGE.

1910. Week Ending	BAROMETRIC PRESSURE at 30° and Sea Level Mean	Highest	Lowest	Mean Temperature	Highest Mean Daily Temperature	Lowest Mean Daily Temperature	Max. Temperature in Shade	Min. Temperature at 4ft above ground	Min. Temperature on ground	Mean Daily Range of Thermometer	Greatest Daily Range of Thermometer	Smallest Daily Range of Thermometer	Mean Humidity	Grains of Vapour in a cubic ft. of air	Prevalent Wind.
	Inches	Inches	Inches												
July 2	29·68	29·76	29·59	56·8	59·2	55·0	64·1	49·7	42·2	10·2	12·1	8·0	74	3·93	W.
,, 9	30·00	30·15	29·72	58·9	64·0	55·4	72·1	48·2	39·9	11·8	18·7	5·0	76	4·27	N.W.—N.E.
,, 16	30·06	30·22	29·92	62·0	66·9	57·3	78·1	49·7	43·2	16·5	22·7	9·7	76	4·02	N.E.
,, 23	29·87	30·07	29·67	59·9	62·6	57·2	67·8	50·0	42·9	10·8	16·4	7·0	77	4·36	N.E.—W.
,, 30	29·80	29·97	29·49	60·6	64·5	56·4	71·8	51·6	43·5	11·3	15·2	6·6	75	4·17	
Aug. 6	29·88	30·16	29·67	58·9	62·1	56·3	67·8	50·4	42·5	11·4	17·1	5·0	73	4·29	S.—S.W.
,, 13	30·20	30·65	29·96	61·5	64·0	57·3	73·0	51·5	43·0	10·8	18·0	6·0	78	4·73	N.—S.W.
,, 20	30·04	30·16	29·84	63·3	67·4	61·3	74·0	55·0	47·2	12·2	15·5	7·7	79	5·03	S.—S.W.
,, 27	29·93	30·07	29·66	60·1	62·3	57·4	69·5	49·5	40·0	10·2	15·9	5·7	82	4·73	W.—S.S.W.
Sept. 3	30·05	30·37	29·58	59·4	61·9	57·2	69·0	50·5	43·0	11·3	18·5	3·5	81	4·69	S.—W.
,, 10	30·30	30·34	30·24	57·1	58·0	56·5	65·7	48·1	39·8	14·7	17·1	11·1	80	4·01	N.
,, 17	30·30	30·54	30·21	56·1	60·9	51·6	67·4	46·8	42·0	9·2	12·9	7·3	83	4·08	N.—N.E.
,, 24	30·37	30·52	30·12	52·5	57·6	48·9	64·0	38·2	31·4	15·7	21·6	12·7	77	3·56	N.—N.W.
Oct. 1	30·11	30·27	29·90	58·5	61·4	54·3	70·8	46·1	38·0	15·1	20·6	9·1	87	4·44	W.—S.
,, 8	39·30	30·58	29·87	55·7	57·6	54·5	65·2	47·7	39·2	12·9	15·4	8·8	84	4·13	N.W.—N.E.
,, 15	30·08	30·40	29·74	51·8	56·1	48·0	63·1	42·7	36·2	7·9	13·9	5·5	84	3·64	N.—N.E.
,, 22	29·93	30·16	29·72	50·7	53·4	45·6	60·0	40·4	33·8	9·3	13·7	5·1	87	3·65	S.S.W.—N.—N.E.
,, 29	29·76	30·10	29·74	50·5	54·6	47·7	57·9	42·5	36·4	6·6	11·6	3·6	91	3·78	E.—N.
Nov. 5	29·54	30·08	29·18	44·3	49·4	38·2	55·9	30·9	24·9	9·5	14·6	6·3	86	2·74	N.—S.W.
,, 12	29·61	30·18	28·82	42·5	45·2	40·4	51·6	30·3	22·8	13·6	20·2	7·8	85	2·61	S.W.
,, 19	29·59	30·25	29·01	40·9	48·0	34·0	53·0	26·7	20·8	11·0	14·6	6·2	84	2·70	W.
,, 26	30·02	30·14	29·82	37·6	41·1	33·6	44·7	27·7	21·2	9·3	12·4	3·5	90	2·39	N.E.—S.E.
Dec. 3	29·84	29·97	29·56	38·4	40·5	34·7	44·8	30·3	23·1	8·2	9·5	7·3	88	2·46	N.—N.E.
,, 10	29·34	29·54	28·79	46·8	49·7	42·8	54·1	34·3	28·1	10·7	17·1	2·9	90	3·34	E.S.E.—S.
,, 17	29·26	29·53	29·10	48·4	50·5	46·7	53·7	43·4	31·8	8·3	16·5	5·4	85	3·41	S.—S.W.
,, 24	30·16	30·31	29·90	45·2	47·1	41·9	52·2	37·0	25·7	9·0	14·0	2·4	83	2·94	S.W.
,, 31	30·14	30·53	29·76	41·2	44·4	37·2	47·5	27·4	20·8	8·9	19·7	3·6	79	2·51	W.

Rainfall of 1910.

Taken at Clifton College.

WEEK. ENDING.	RAIN INCHES.	WEEK ENDING.	RAIN INCHES.
January 8	·335	July 16	030
,, 15	1·070	,, 23	·540
,, 22	·970	,, 30	·730
,, 29	1·190	August 6	1·570
February 5	·540	,, 13	·135
,, 12	·775	,, 20	1·090
,, 19	1·650	,, 27	·860
,, 26	1·960	Sept. 3	2·350
March 5	·225	,, 10	·005
,, 12	·400	,, 17	·210
,, 19	·155	,, 24	Nil.
,, 26	Nil.	October 1	·075
April 2	Nil.	,, 8	·490
,, 9	1·075	,, 15	1·720
,, 16	·420	,, 22	1·565
,, 23	·600	,, 29	·725
,, 30	550	Nov. 5	1·030
May 7	·570	,, 12	1·500
,, 14	·153	,, 19	·935
,, 21	·425	,, 26	·895
,, 28	·125	Dec. 3	1·545
June 4	·460	,, 10	1·400
,, 11	3.830	,, 17	2·730
,, 18	Nil.	,, 24	·385
,, 25	·730	,, 31	·045
July 2	·895		
,, 9	·560		

D. RINTOUL.

Rainfall 1910.

MONTH.	Rainfall in Inches.	Average of 29 Years.	Departure from Average.	No of days on which ·01 inches or more rain fell
January ...	3·605	2·644	+ 0·961	17
February ...	4·990	2·237	+ 2·753	22
March	0·675	2·298	– 1·623	10
April	2·645	2·276	+ 0·369	16
May	1·865	1·999	– 0·134	20
June	5·240	2·445	+ 2·795	14
July	2·075	2·754	– 0·679	12
August ...	6·005	3·286	+ 2·719	17
September ...	0·230	2·587	– 2·357	3
October ...	5·040	3·926	+ 1·114	16
November	4·955	2·958	+ 1·997	21
December	5·040	3·488	+ 1·552	22
	42·365	32·898	+ 9·467	190

D. RINTOUL.

PART III.

CITY HOSPITALS.

Report of the General Medical Superintendent (Administrative).

1910.

The Reports of the Resident Medical Officer at Ham Green, and of the Visiting Medical Officer at Novers Hill, which follow, give details of the work in these Institutions.

Dr. Peters, at Ham Green, draws attention to several points of interest :—

1. The number of patients dealt with during the year is the largest on record, in great part due to the autumnal prevalence of Scarlet Fever, which soon filled every available bed, leading to considerable delay in admitting other suitable cases. This emphasises the position I have consistently taken for some years, that the City should be more adequately provided with isolation accommodation for epidemic emergency.

2. The Vaccination statistics show an increase of unvaccinated children from 20·1 per cent. last year to 26·6 per cent. this year.

The risk involved to the victims of this policy of neglect is very obvious to those who know ; but the public is hard to convince, and as long as the law facilitates neglect, will continue to trust to, without evincing gratitude for, special endeavour under stress of invasion.

3. The danger of neglecting mild cases of Scarlet Fever is suggested by the persistence of Chronic Kidney mischief in two patients who developed the disease at home before admission, while eight cases of Nephritis arising in hospital, and at once afforded proper treatment, completely recovered.

4. The "return case" rate of 1·7 is satisfactorily low, and the special precautions taken to avoid this occurrence are carefully observed.

5. The retention of a special ward for patients after their final bath is an advisable step, but it deprives the hospital of much-needed beds, and makes still smaller the already too small accommodation.

6. Only 32 per cent. of cases of Diphtheria were admitted on or before the fourth day of disease, after which Antitoxin is of little use. Of the 308 cases admitted, only 40 had received some Antitoxin before admission. There is a tendency amongst private practitioners to trust to too small doses, and a new memorandum on Antitoxin has been prepared and circulated to medical practitioners (page 40).

7. There has been an unusual amount of mixed infection, and Dr. Peters comments on the difficulties encountered in dealing with such cases.

A small Laboratory has been fitted up for the Medical Officer's use.

At Novers Hill, Dr. Pauli pays a deserved tribute to the matron, Miss Watt, who, during her seven years of office has organised the nursing staff with great skill, and has spared neither time nor trouble in the interests of the patients. The City owes her a debt of gratitude for her successful dealing with the sudden and severe invasion of Small-pox in 1909.

Miss Watt, having tendered her resignation on her approaching marriage, will be succeeded by Miss Golledge, assistant matron at Ham Green, who may be trusted to maintain the work of the Hospital at its present high level of efficiency.

Hospital Accommodation.

The tabular statement "Isolation Hospital Accommodation in Bristol since 1886," shows incidentally the vicissitudes through which hospital accommodation for infectious cases has passed, and makes it clear how we now have less available beds per head of population than we had 24 years ago.

The difference between then and now may be summed up thus :—

Then there were seven beds per 10,000 population the majority of beds were provided by the Guardians, the population to be served was only 214,000 persons.

Now there are only four beds per 10,000 population at full cubic space (2,000 cubic feet), all the beds are in the hands of the Sanitary Authority, the population to be served is 377,000 persons.

The advantages gained now are concentration in administration, not only in regard to notification and removal of cases, but in regard to the Hospitals in use ; and the substitution in great part of well-equipped and well-nursed permanent Hospital Blocks for ill-equipped and inefficiently nursed temporary wooden structures.

The disadvantages are, the assumption of responsibility for isolation of cases formerly provided for by the Guardians, and for isolation hospital provision for a larger population ; without a corresponding pro ratâ increase in the number of beds.

The success achieved in avoiding disastrous epidemics is quoted in evidence of the sufficiency of the present beds, but this view loses sight of the immense strain thrown on the personal factor in mobilising insufficient forces, and is at best commendation of the triumph of administration over means.

No other large town is content with a less ratio of isolation beds to population than one per thousand.

The permanent closure of Clift House has made a perceptible difference in the necessary elasticity of our available isolation accommodation ; and the actual dilapidation of the original buildings on the Novers Hill site accentuates a deficiency already sufficiently marked.

The coincident prevalence of Measles, Whooping Cough, Chicken-pox and Mumps through the autumn and winter has further emphasised the insufficient hospital accommodation, for, though these diseases can not be systematically isolated in hospital, urgent cases arise from time to time where isolation is advisable in the interest of the patient and of the City.

The necessity for bringing up the available accommodation for the defence of the City to at least the figure which obtained 24 years ago may without exaggeration be described as urgent.

I am, Gentlemen,
Your obedient Servant,
D. S. DAVIES, M.D.,
General Medical Superintendent City Hospitals.

ISOLATION HOSPITAL ACCOMMODATION IN BRISTOL SINCE 1886.

	Guardians.	St. Philip.	St. George.	Clift House.	Novers Hill.	Ham Green.	Population of City.	Total Beds.	Proportion of Beds per 1,000 Population.
1886	120	28					214,000	148	0·7
1894	60	48		30	50		226,000	188	0·8
1898	60	Closed.	6	Closed.	50		316,000	116	0·3
1900	Closed.	24	6	22	50	76	324,000	156	0·5
1901		24	Closed.	22	35	76	329,000	157	0·4
1902		Closed.		22	35	76	334,000	133	0·3
1905				22	35	134	358,000	191	0·5
1906				Closed.	35	134	363,000	169	0·4
1910					35	134	382,000	169	0·4

CITY HOSPITALS, HAM GREEN, BRISTOL.

Report of the Resident Medical Officer for the Year 1910.

To the Members of the Committee of Management.

Gentlemen,

I have the honour to submit to you the Twelfth Annual Report of the work of this Hospital, for the statistical year ending December 31st, 1910.

There were 98 patients in Hospital at the beginning of the year, 1,036 were admitted, 944 were discharged and 29 died, leaving 161 in Hospital at the end of the year.

The admissions exceeded in number those of any previous year by 147, due to the large number of Scarlet Fever patients admitted during the latter half of the year.

The average daily number of patients in Hospital was 156·3. The highest number was 196 in the beginning of October and the lowest 98 on the 2nd of January.

The average length of stay in Hospital was 54·3 days for those who recovered, and 18 days for the fatal cases.

The average death rate for all diseases was 2·9 calculated on those discharged, or 2·8 if taken on those admitted. Two deaths occurred within 24 hours of admission. The exclusion of these reduces the total death rate to 2·6. Statistical Tables are appended shewing all particulars.

SCARLET FEVER.

Thirty-six cases were in Hospital at the beginning of the year, 709 were admitted (as notified), 570 patients were discharged well, 92 remained at the end of the year, and ten died.

Removal to Hospital was effected in 84 per cent. of cases during the first week of illness, compared with 86 per cent. last year and 88 per cent. in 1908. This is largely due to the fact that during the autumn almost every available bed was occupied and patients could only be admitted in turn as vacancies occurred.

Age Incidence.—Of the patients discharged 24·7 per cent. were under 5, 53 per cent. were between 5 and 10, 14·4 per cent. between 10 and 15, and 7·9 per cent. over 15.

The average duration of stay in Hospital was 53 days for those who recovered, and 21 days for the fatal cases.

Fatality Rate.—Calculated on the discharges, the mortality rate was 1·7 per cent. The rate for females was under 1 per cent. The deaths all occurred in patients under seven years of age, with one exception.

The type of disease was very mild, 95 per cent. of the cases suffered from Scarlatina simplex, while only 5 per cent. suffered from Scarlatina Anginosa.

The low mortality rate is largely due to the comparatively small number of patients (24·7 per cent.) under five years who suffered from the disease, as they contributed 70 per cent. of all the deaths.

Of 37 cases notified as Scarlet Fever, 18 were cases of Scarlet Fever and Diphtheria, three were Scarlet Fever and Whooping Cough, four were Scarlet Fever and Chicken-pox, three were Measles, one Tonsillitis, two Pneumonia, and six Nil.

Cause of Death.—In seven fatal cases death ensued from Toxæmia and exhaustion, in one from Cellulitis and Gangrene of the neck, in one from Endocarditis and Syncope, and in one adult from Scarlet Fever supervening on Chronic Nephritis.

Complications.—Rhinorrhœa was present in 45 cases, in 18 of these Diphtheria Bacilli were found. Otorrhœa occurred in 47 cases, in 29 of these the right ear was affected, in 10 the left, and in 8 both ears.

Cervical Adenitis occurred in 20 patients, in eight of these Abscesses formed. Severe Cervical Cellulitis occurred in two cases. Slight Albuminuria occurred in six patients, Acute Nephritis in ten patients, eight of these developed this complication in Hospital and completely recovered. Two patients were admitted suffering from it, the initial Scarlet Fever not having been detected, both of these were detained for 16 weeks, and were eventually discharged with Chronic Nephritis. This is a common experience and emphasises the great danger of the neglect of mild cases. Three cases suffered from Arthritis, one with Endocarditis as a result. Pneumonia occurred in eight cases; Mastoid Abscesses occurred in two cases. Quinsy retarded the convalescence of four patients.

Sequelæ.—Three patients were discharged with Otorrhœa, and two with Chronic Nephritis.

Return Cases.—627 patients were discharged after Scarlet Fever (including 55 cases of mixed infections), eleven of these apparently infected others after intervals varying from four to sixteen days. This gives a return case rate of 1·7.

The average length of stay in Hospital of the infecting case was 61 days. The average interval between return of patient and onset of symptoms in secondary case was eight days. Of the infecting cases seven were uncomplicated, two had suffered from Otorrhœa and Rhinorrhœa, and one from Adenitis, all had been quite well for at least 14 days before discharge.

The special precautions at present taken to minimize these cases are :—

1. The systematic irrigation of the throats and noses of all convalescent patients with mild antiseptics.

2. All patients are kept in a convalescent ward, out of contact with any acute cases for at least a fortnight before discharge.

3. A special ward is now set apart for keeping the patients twenty-four hours after their final hot disinfecting bath to decrease the risk of " cold in the head " which appears to cause frequently a return of infectivity.

The use of this ward for this special purpose, unfortunately, reduces the isolation accommodation to an inadequate amount at times when the Hospital is full.

DIPHTHERIA.

Fifty-four patients were in Hospital at the beginning of the year, 308 were admitted, 285 were discharged, 18 died, 34 were remaining at the end of the year. The remainder are counted under " mixed infections."

Removal to Hospital was effected in only 32 per cent. on or before the fourth day of disease, after which time Antitoxin is frequently powerless to avert a fatal issue in a virulent case.

No patient died (with one exception from lung complications) who received an adequate amount of Antitoxin on or before the third day of illness.

All cases were examined bacteriologically before or shortly after admission.

Age Incidence.—Of the patients discharged 34·4 per cent. were under five years of age ; 44·5 per cent. were between 5 and 10 ; 15·7 per cent. were between 10 and 15 ; 5·4 per cent. were over 15.

The average number of days spent in Hospital by each patient was 52.

Fatality Rate.—Calculated on the discharges, the fatality rate was 5·9 per cent. Two deaths occurred within twenty-four hours of admission, if these be excluded the rate becomes 5·3 per cent. The death rate 5·1 per cent. for males compared with 7 per cent. for females.

Of these cases 52 were carriers, shewing no clinical signs of the disease: in them the mortality was nil. Among the remaining cases shewing clinical evidence of the disease (252), 18 deaths occurred, giving a mortality of 7·1 per cent.

The seat of the disease was as follows :—

Throat	216
Throat and Nose	24
Throat and Larynx ..	10
Larynx	2
Nose	40
Ear	11
Total ..	303

Cause of Death.—13 deaths were due to Toxæmia and Syncope, three were due to Paralysis of the Diaphragm coming on in late convalescence, one was due to Purpura Hæmorrhagica associated with Chronic Heart Disease of long standing, and one to Broncho-Pneumonia.

Complications.—25 suffered from Severe Cervical Adenitis (15 being fatal cases), four of these went on to Abscess formation. Otorrhœa occurred in 10 cases; Early Albuminuria in 57 cases; Broncho-Pneumonia occurred in one case. Weakness and irregularity of the heart was present in 110 cases during convalescence.

Paralysis.—In 29 cases Paralysis of the soft palate was present, in eight the eye muscles were affected; in five the Skeletal Muscles; and in three the Diaphragm.

A Serum Rash occurred in 36 cases or 15 per cent. of those injected.

Forty patients received some Antitoxin before admission.

Tracheotomy was performed on seven patients before admission, of these one died ; on two patients the operation was performed after admission, these both recovered. The fatality rate was thus 11 per cent.

863 bacteriological examinations were made by the City Bacteriologist, and 37 at the Hospital.

ENTERIC FEVER.

Four cases were in the Hospital at the beginning of the year, fifteen were admitted, thirteen discharged, and six remained. Three of these remaining were "suspects" in which the after history did not confirm the suspicion of the disease. No deaths occurred.

Diagnosis.—In five a positive Widal reaction was obtained before admission, in four after ; no examination was made in four cases which were clinically Enteric.

Complications.—Two patients suffered a relapse, and one developed Broncho-Pneumonia and Empyema.

MIXED INFECTIONS.

A considerable number of patients were found to be suffering from a double infection on admission.

Group 1.—Notified as double infections :—

Scarlet Fever and Diphtheria.. ..	2
Scarlet Fever and Whooping Cough..	1

Group 2.—Found to be suffering from two infections on admission :—

Scarlet Fever and Diphtheria	18
Scarlet Fever and Chicken-pox	4
Scarlet Fever and Whooping Cough	3
Diphtheria and Chicken-pox	1
Diphtheria and Scarlet Fever	5

These cases were at once isolated and caused no secondary cases.

Group 3.—Incubating a second disease which developed some days after admission :—

Scarlet Fever and Chicken-pox	3
Scarlet Fever and Whooping Cough	1
Scarlet Fever and Measles	1
Diphtheria and Chicken-pox	1
Diphtheria and Measles	1

Group 4.—Cases which contracted a second disease owing to cases in Group 3 :—

Scarlet Fever contracted Chicken-pox	11
Scarlet Fever contracted Measles	5
Scarlet Fever contracted Post Scarlatinal Diphtheria	2
Diphtheria contracted Measles	1
Diphtheria contracted Chicken-pox	3

Average stay in Hospital in these cases was 79 days.

To prevent these cross infections each patient is provided with everything separate from the others, and a system of bed to bed isolation is practised as far as possible.

It is impossible to prevent these secondary infections except, possibly, by keeping each patient in a separate cubicle. By keeping the patients in one block for at least fourteen days before transferring them to the convalescent ward, the patients in the convalescent wards are protected from secondary infections. These outbreaks of infections are not only a problem of fever hospitals but occur most frequently in a children's ward of a general hospital. It is noteworthy that only 22 patients contracted a disease in hospital out of 1,126 under treatment during the year, an attack rate of 1·9 per cent. This would probably compare very favourably with any institution where many young children are aggregated. Patients suffering from one infection are very susceptible to others, particularly as regards Scarlet Fever and Diphtheria reciprocally.

OTHER DISEASES.

Of 12 cases notified as suffering from Scarlet Fever, three were Measles, six nil, one Tonsillitis, two Pneumonia.

Of two cases notified as Diphtheria, one was Syphilis, and one Lobar Pneumonia which ended fatally.

VACCINATION STATISTICS.

The Vaccination statistics for the patients discharged are as follows :—

Un-vaccinated ..	260	—	26·6	per cent.
Doubtful	11	—	1·1	,,
One Mark	293	—	30·1	,,
Two Marks	171	—	17·5	,,
Three Marks ..	162	—	16·7	,,
Four Marks ..	76	—	8·0	,,
Total ..	973			

This is an increase of un-vaccinated children from 20·1 per cent. last year to 26·6 per cent. this year.

STAFF ILLNESS.

The Resident Medical Officer and four of the Nursing Staff contracted Scarlet Fever. Four Nurses contracted Diphtheria. Loss of service 275 days.

Other minor illnesses accounted for 517 days' loss of service among the Nursing and Domestic Staff.

GENERAL.

24,331 articles were disinfected in the Hospital steam disinfector.

The new laboratory which has been authorized is undergoing completion, and will prove of very great use when finished.

In conclusion, I beg to acknowledge the harmonious co-operation of Miss Garden in administering the Hospital, and the good work done by the Nursing and Working Staffs.

I am, Gentlemen,
Your obedient Servant,
B. A. PETERS, M.B., D.P.H.
Resident Medical Officer.

HAM GREEN HOSPITAL.

TABLE I.

Admissions and Discharges during 1910, with the number of Patients in Hospital at the beginning and end of year.

Disease	Remaining in Hospital at end of year 1909	Admitted.	Discharged.				Remaining in Hospital at end of Year 1910.
			Recovered.		Died.		
			M	F	M	F	
Scarlet Fever	36	709	252	320	7	3	92
Diphtheria	54	308	130	155	7	11	34
Enteric Fever	4	15	9	4	—	—	6
Mixed Infections	—	—	63		—	1	29
Other Diseases	4	4	11		—	—	—
Totals	**98**	**1036**	**944**		**29**		**161**

HAM GREEN HOSPITAL.

TABLE II.

Showing Ages and Sexes of Patients Discharged during the year 1910, with the Fatality Rate.

Scarlet Fever.

Age.	MALE.			FEMALE.			TOTAL.		
	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.
0-1 ...	5	...	...	4	...	...	9	...	...
1-2 ...	4	...	...	6	...	...	10	...	...
2-3 ...	11	1	8·3	16	1	6·1	27	2	6·9
3-4 ...	18	3	14·2	24	...	...	42	3	6·6
4-5 ...	31	2	6	25	...	...	56	2	3·4
5-6 ...	19	...	...	52	...	...	71	...	...
6-7	32	1	3	37	1	2·6	69	2	2·8
7-8 ...	35	...	...	33	...	...	68	...	...
8-9 ...	27	...	...	26	...	...	53	...	...
9-10 ...	13	...	...	33	...	...	46	...	...
10-15 ...	42	...	...	42	...	...	84	...	...
15-20 ...	11	...	...	11	...	...	22	...	...
Over 20 ...	4	...	...	11	1	8·3	15	1	7·1
Totals...	252	7	2·7	320	3	0·9	572	10	1·7

Diphtheria.

Age.	MALE.			FEMALE.			TOTAL.		
	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.	Recovered.	Died.	Fatality per cent.
0-1 ...	4	...	...	...	...	...	4	...	...
1-2 ...	5	...	...	6	1	14·2	11	1	8·3
2-3 ...	10	1	9	4	1	20	14	2	6·2
3-4 ...	12	...	...	15	...	...	27	...	...
4-5 ...	21	...	...	13	2	13·3	34	2	5·5
5-6 ...	11	3	21·3	18	1	5·2	29	4	12·1
6-7 ...	12	2	14·2	17	2	10·4	29	4	12·1
7-8 ...	16	1	5·9	14	...	...	30	1	3·2
8-9 ...	6	...	...	7	...	...	13	...	...
9-10 ...	8	...	...	18	...	...	26	...	...
10-15 ...	21	...	...	23	4	14·8	44	4	9
15-20 ...	2	...	...	10	...	...	12	...	...
Over 20 ...	2	...	...	9	...	...	11	...	...
Totals ...	130	7	5·1	154	11	7	284	18	5·9

HAM GREEN HOSPITAL.

TABLE III.

The Stage of the Disease when Patients were admitted to Hospital.

	DAYS OF 1ST WEEK.							WEEK OF ILLNESS.					
Disease.	1	2	3	4	5	6	7	1st	2nd	3rd	4th & over.	Carriers.	Total.
Scarlet Fever ...	—	36	118	134	133	43	30	494	51	12	15	—	**572**
Diphtheria ...	—	10	28	62	54	33	18	205	26	1	—	52	**284**
Enteric Fever ...	—	—	—	—	—	—	—	4	3	3	3	—	**13**

HAM GREEN HOSPITAL.

TABLE IV.

Complications observed in Patients discharged during 1910.

Scarlet Fever.	Otorrhœa.	Rhinorrhœa.	Albuminuria.	Nephritis.	Cervical Adenitis.	Cervical Abscess.	Endocarditis.	Pneumonia.	Mastoiditis.	Cellulitis.	Suppurative Tonsillitis.
In 572 non-fatal cases	45	27	6	9	14	8	3	4	2	1	4
In 10 fatal cases	2	...	...	1	6	...	...	4	...	1	...
Total 582 cases	**47**	**27**	**6**	**10**	**20**	**8**	**3**	**8**	**2**	**2**	**4**
Percentage	8·5	4·8	1·0	1·7	3·5	1·4	0·5	1·4	0·3	0·3	0·7

Diphtheria.	PARALYSIS.				Otorrhœa.	Albuminuria.	Cervical Adenitis.	Vomiting.	Heart Affection.	Pneumonia.
	Palate.	Skeletal Muscles.	Eye Muscles.	Diaphragm.						
In 284 non-fatal cases	29	5	8	...	10	57	10	3	97	...
In 18 fatal cases ...	9	...	...	3	...	18	14	8	13	1
Total 302 cases ..	**38**	**5**	**8**	**3**	**10**	**75**	**24**	**11**	**110**	**1**
Percentage	12·5	1·6	2·6	1·0	3·3	24·8	7·9	3·6	36·4	0·3

HAM GREEN HOSPITAL.

TABLE V.

Monthly admissions as notified and daily average number in Hospital.

1910.	Scarlet Fever.		Diphtheria.		Enteric Fever.		Other Diseases.		Average Daily. No. in Hospital in each Month
January	39	150	38	91	0	7	0	0	106·4
February ..	68		23		5		0		151·8
March	43		30		2		0		160·6
April	43	141	22	79	3	3	0	1	159·2
May	47		25		0		1		147
June	51		32		0		0		135·4
July	65	244	29	61	0	0	0	3	154·2
August	71		14		0		1		163·2
September ...	108		18		0		2		168·2
October	50	174	21	77	0	5	0	0	185
November ...	77		32		0		0		172·1
December ...	47		24		5		0		173
Year 1910	709		308		15		4		156·3

HAM GREEN HOSPITAL.

Statistics for each Year since opening of Hospital.

TABLE VI.

Admissions Classified according to DISEASE.

YEAR.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Mixed Infections.	Other Diseases and Quarantine.	TOTAL.
1899 (From July 24th)	194	4	21	...	7	226
1900	571	70	38	..	..	679
1901	452	27	44	...	4	527
1902	536	128	42	21	...	727
1903	370	323	11	11	...	715
1904	374	317	26	2	...	719
1905	476	310	...	19	12	817
1906	439	342	8	9	19	817
1907	370	445	...	43	31	889
1908	219	513	13	11	21	777
1909	414	359	8	23	49	853
1910	709	308	15	...	4	1,036
Totals	5,124	3,146	226	139	147	8,782

Discharges and Deaths.

YEAR.	Scarlet Fever.		Diphtheria.		Enteric Fever.		Mixed Infections and other Diseases.	
	Dis-charges.	Deaths.	Dis-charges.	Deaths.	Dis-charges.	Deaths.	Dis-charges.	Deaths.
1899 From July 24th	127	5	3	...	3	...	5	...
1900	485	15	50	12	33	1	...	...
1901	452	10	34	1	39	5	...	..
1902	540	11	67	14	33	4	18	2
1903	377	4	308	17	17	2	12	...
1904	326	7	310	20	24	2	2	...
1905	426	16	271	13	...	...	25	5
1906	433	12	314	20	3	1	28	2
1907	405	15	387	34	4	..	58	1
1908	197	4	516	28	11	...	41	3
1909	420	9	359	14	6	...	63	5
1910	572	10	285	18	13	...	74	1
Totals	4,760	118	2,904	191	186	15	326	19
Average Fatality per cent.	2·4		6·1		7·4		5·5	

NOVERS HILL HOSPITAL.

Report of the Medical Attendant for the Year 1910.

Scarlet Fever Cases.

Remaining from 1909 ..	15	153
Admitted	138	

Transferred to Ham Green ..	9	153
Discharged	103	
Died	1	
Remaining	40	

The patient that died was not suffering from Scarlet Fever but was sent in with Facial Erysipelas and died soon after admission.

Character of attack and type of the disease on admission :—

29 had a good well developed typical rash.
5 had Scarlatina Anginosa.
40 had a mild or fading rash.
35 had no rash on admission, but desquamated in due course.
18 were desquamating on admission.
6 were doubtful—no rash or desquamation.
3 developed a typical rash after admission.

Summary of Cases.

Otorrhœa 12, Mastoid Abscess 2, Inflamed and Suppurating Glands, requiring surgical treatment 10 ; Rhinitis and Rhinorrhœa 6, Scarlatinal Nephritis 5, Simple Albuminuria without other clinical symptoms of Nephritis 15, Stomatitis 1, Bronchitis 2, Pneumonia 2, Phlebitis 1, Erythema Nodosum 1, Scarlatinal Rheumatism 6, Herpes Facialis (severe) 1, Eczema 1.

Ten patients were admitted with existing Heart Disease, one of Chorea and one with Hip Disease.

Three cases admitted as doubtful developed a secondary rash and five proved not to be suffering from Scarlet Fever.

There were three cases of Whooping Cough and seven cases of Chicken Pox : nursing accommodation being very limited, it was not possible to properly isolate the cases With regard to Chicken Pox this was not of so much importance, Chicken Pox being practically a harmless disease, but with Whooping Cough it is another matter, as it is one of the most distressing of children's ailments, requiring close observation and careful nursing. Broncho-Pneumonia is not an uncommon complication of Scarlet Fever, and had a young child with that disease contracted Whooping Cough the result would probably have been serious.

Thirty-seven patients (27 per cent.) were admitted with verminous heads, in some cases so " lively " as to necessitate cropping the hair—an operation very often giving annoyance to the parents. One case notified as Scarlet Fever was only flea bitten.

There was one case of Pneumonia admitted, not because it was suffering from Scarlet Fever, but being an inmate of a house infected with Small-pox and a " suspect," could not be received in any other institution ; the patient, however, made a good recovery and was discharged in 14 days.

Vaccination.

Although having no bearing on Scarlet Fever I think it interesting to note the characteristic condition of those admitted :—

59 had excellent good marks.
17 had moderately good marks.
17 had only poor marks.
7 had very poor marks.
37 were not vaccinated.

It is satisfactory to note that 75 per cent. of those admitted had been more or less properly vaccinated, and that quite half had shown excellent marks.

Average age of patients, 7 years ; youngest, 1 year ; oldest, 34 years.

Average duration in Hospital, 36 days ; longest time, 13 weeks ; shortest time, 9 hours.

Small Pox.

Three patients were admitted during the year. The first case had the appearance of Small-pox of a most virulent type, but it somewhat suddenly aborted in the vesicular stage and made a good and rapid recovery. The patient stated that he had been vaccinated at the age of eight years, and showed some excellent marks. The other two cases were admitted as " suspicious " for observation and proved not to be Small-pox.

My thanks are due to the Matron and Hospital Staff generally for their generous support and co-operation in looking after the welfare of the patients entrusted to my care.

At the time of writing this report the information has reached me that Miss Watt is about to resign the post of Matron to these Hospitals. During the long period of 36 years that I have now been associated with the City Hospitals I can confidently assert that the Committee has never had a more faithful and painstaking or efficient Matron, both the staff and patients will lose a kind true friend and her departure is deeply regretted by one and all.

G. C. PAULI, M.R.C.S., L.R.C.P.,
Medical Attendant.

	NOVERS HILL		HAM GREEN.	
	Year ending 25th March, 1910	Year ending 25th March, 1911	Year ending 25th March, 1910	Year ending 25th March, 1911
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries and Wages:—				
Medical Superintendent	50 0 0	50 0 0	50 0 0	50 0 0
Medical Officer	200 0 0	200 0 0	258 0 0	181 13 8
Special Services as *locum tenens*	....	....	16 16 0	80 4 0
Medical Consultations	....	....	6 6 0	3 3 0
Matron	83 0 0	88 0 0	108 0 0	108 0 0
Nurses, Officers and Servants	659 8 4	712 8 4	2320 16 4	2411 15 1
Contribution to Workmen's Compensation Fund	3 9 4	3 9 4	9 8 7	9 8 7
PROVISIONS, viz.: Meat	102 10 8	160 1 7	397 16 9	422 14 8
Fish and Ice	21 16 7	35 2 10	75 2 11	88 9 10
Poultry and Game	9 1 6	7 19 4	50 12 10	23 6 9
Bread and Flour	28 11 5	42 2 3	190 11 11	216 4 8
Milk, Butter and Eggs	80 18 6	149 18 5	587 0 5	649 10 9
Groceries	67 19 2	87 7 8	328 12 7	363 3 6
Vegetables and Fruit	12 7 4	12 19 7	157 15 11	176 12 10
Wine and Spirits	....	1 3 6	15 19 0	5 4 6
Mineral Waters	0 12 6	0 12 6	7 15 0	4 11 2
Tithe Rent, Rates and Insurance	241 15 8	226 17 9	524 5 3	484 16 4
Rent of Telephone	10 10 0	10 10 0	41 0 0	41 0 0
Rent of Cottage	....	....	9 2 4	9 19 0
Coal and Firewood	124 5 10	143 1 2	639 2 3	650 19 9
Water, and Hire of Meter	21 0 0	26 3 6	243 3 6	240 1 0
Gas	48 1 10	64 3 0	....	....
Cleaning Materials and Baskets	40 17 4	52 16 3	156 18 3	183 15 0
Sweeping Chimneys	....	....	6 0 2	10 11 0
Crockery, Cutlery and Glass	4 3 11	....	17 1 7	16 0 0
Linen, Drapery, and Uniform Clothing	26 8 5	37 15 9	73 15 8	380 17 1
Furniture, Fittings, and Bedding	11 3 8	24 12 0	8 12 0	55 4 7
Mackintosh Sheeting	....	9 15 0	13 10 4	....
Drugs and Chemicals	23 5 8	29 7 3	227 5 5	262 6 1
Maintenance of Battery	....	....	30 0 0	30 0 0
Electrical Fittings, and Inspection of same	....	....	40 8 6	27 8 7
Painters' Work	168 1 11	....	59 19 1	294 12 10
Plumbers' Work	15 15 11	7 19 8	....	....
Ironmongery, Fittings, and Repairs	34 0 9	50 12 10	43 1 8	111 16 8
Cement Work	....	12 17 0	....	....
Extension of Lodge	....	105 10 0	....	....
Repairs to Roadway	48 19 5	9 8 1	....	....
Weighbridge Office	....	....	15 17 0	....
Shed for Forge	....	....	12 0 0	....
New Boiler	....	....	....	43 0 0
Repairing Fencing	9 12 8	7 19 10	....	....
Mould, Seed, Plants and Manure, etc.	19 6 5	22 8 0	28 1 6	3 6 6
Croquet Set, Swings, etc.	3 16 8	....	6 19 3	....
Doors for Meter House	3 5 0	....	....	....
Hauling and Cab Hire	9 4 4	8 11 0	97 18 0	106 11 7
Carriage of Goods, and Bridge Tolls	....	....	6 0 6	8 3 5
Railway and Tram Fares	....	....	4 12 11	12 19 2
Removal of Bodies	....	....	3 10 0	7 0 0
Printing, Stationery, and Advertising	16 5 1	12 8 10	70 19 3	63 17 1
Papers, Periodicals, and Books	4 5 11	4 9 10	10 7 2	6 13 3
Postage and Contract Stamps	6 3 10	15 19 6	23 7 8	30 15 0
Toys	....	3 2 2	7 10 5	10 5 0
Expenses to London re Extension of Hospital	8 9 0	....	....	....
Pigs	....	....	8 17 6	11 19 0
Fowls	....	....	3 15 0	....
Pigsties	....	....	15 10 0	....
Food, etc., for Pigs and Fowls	....	....	7 19 8	22 2 3
Petty Disbursements	5 3 9	7 5 6	6 8 2	10 13 7
TOTAL EXPENDITURE IN THE YEAR	**£2223 18 4**	**£2444 19 3**	**£7043 14 3**	**£7930 16 9**

J. CROMPTON, F.S.A.A., City Accountant.

Number of Patients in the year	66	159	961	1146
Total Cost per week for each Patient, including all the Working Expenses	s. d. 112 3¾	s. d. 40 7¼	s. d. 22 3¾	s. d. 20 0¼

PART IV.

REPORT OF THE CHIEF INSPECTOR OF NUISANCES.

Public Health Department,
40 Prince Street,
February, 1911.

1910.

To the Chairman and Members of the Health Committee.

Gentlemen,

I have once again the honour of submitting the following brief report, with summaries, showing the amount of work effected in this Department during the year 1910.

The complaints and applications received at the Office numbered 1295, as against 919 in the previous year (an increase of 376), all of which were duly enquired into as quickly as possible. and wherever a nuisance existed, steps were immediately taken for its abatement. In 297 instances no nuisance was found. so that no action was necessary ; this works out at 22·9 per cent. of the whole. Last year the number equalled 32·5 of the whole. A considerable number of the applications were from persons changing residence who wished to have some guarantee that the house they proposed to take was in good sanitary condition, and in this way a considerable amount of good work has been accomplished. People will not take a house when the drains, &c., are known to be defective, and the owners prefer doing whatever is necessary to losing the prospect of a tenant. The public also now recognise that complaints are always treated as strictly confidential.

2,078 cases of notifiable infectious disease were duly enquired into by the District Inspectors and the results entered on the case cards as required by the Medical Officer of Health. This is an increase of 332 over the number notified last year (1,746). 5,646 visits were made to infected houses, as in many instances the cases nursed at home require frequent visiting. When children attend the Elementary Schools cards are made out and sent to the Head Teacher of the School as well as to the School Medical Officer of the Education Committee, and this entails a considerable amount of clerical work, as three cards are required for each case.

2,089 infected houses were disinfected, and 46,929 articles of bedding, clothing, &c., removed, disinfected by steam, and returned in the houses. 515 similar articles were destroyed, their condition being such that disinfection was impossible.

The clothing of patients removed to Ham Green and Novers Hill Hospitals is not included in the above totals, as the Hospitals are both equipped with a Washington Lyons Steam Disinfector.

Non-Notifiable Infectious Diseases, such as Measles, Whooping-Cough, Chicken Pox, Mumps, &c., were also visited on receipt of notification from the Elementary Schools that certain children were absent from school in consequence of any of these diseases. 2,182 visits were thus paid (329 more than last year), and leaflets of precautions given to the parents. In acute cases the parents were advised to secure proper medical attendance, and often did so. Disinfection is also offered and carried out wherever considered advisable, or of any practical use.

Small Pox.

Two cases of Small Pox were notified in the City during the year. 885 visits were paid to the houses of 101 contacts with these patients, and to the houses of contacts with infection reported from other towns.

Phthisis.

This terrible disease is still very much in evidence, although the notifications and deaths were somewhat less than in the previous year. The voluntary notifications numbered 361 as against 395 the previous year, and the Poor Law notifications 174 against 173. The latter are under the Public Health (Tuberculosis) Regulations 1908, which came into operation on January 1st, 1909, and probably many of these cases had previously been voluntarily notified by a private medical attendant, but Poor Law Officers are obliged to notify every case that comes to them whether notified before or not. There were 354 deaths from this disease during the year, 37 less than in the previous year. Disinfection of rooms, clothing, &c., is carried out in all cases of death or removal and in acute cases whenever considered necessary.

Notices to Abate Nuisances.

2,126 informal or preliminary written notices were served, and as usual proved so successful that only 190 Statutory Notices were required to enforce compliance with the informal notices. These Statutory Notices were all complied with, and no magisterial proceedings were therefore necessary.

In addition to the written notices a considerable number of verbal requests were made to property owners, with satisfactory results.

Drain testing has as usual occupied a considerable portion of the Inspectors' time, the smoke test having been applied 1,466 times, in addition to a considerable number of water and chemical tests.

A summary of work effected by the whole of the Inspectors is appended.

By arrangement with the Board of Guardians the Masters at each of the Workhouses have for some time past given notice to the Medical Officer of Health of the removal, for burial by friends or relations, of the bodies of persons dying in the Workhouses. These notices give particulars as to where the body has been taken, together with the name and address of the undertaker. Your Inspectors then see that the body is not kept about for any undue length of time, as was often the case previously, chiefly for the purpose of going round with the hat! 314 intimations of these removals were received during the year.

Houses Let in Lodgings or Tenement Houses.

267 May Notices for Limewashing and Cleansing of these houses were served in accordance with the Bye-Laws, and resulted in the cleansing of 1,515 rooms and 320 passages and stairs.

I am pleased to say that your Committee has recognised the importance of frequent and continual inspection of these houses and appointed a new Inspector for this purpose. He commenced his duties in October last and is actively engaged in the work, having already discovered and successfully dealt with several cases of overcrowding and other unsanitary conditions in the houses previously registered, besides measuring rooms and getting particulars of other houses which ought to be registered. There are a considerable number of these but it is too early yet to give even an approximate estimate of the number.

Combined or Party Drains.

Sixteen combined or party drains to which the drains of 81 houses were connected have been relaid during the year, and the cost thereof apportioned amongst the various owners. The Bristol Corporation Act of 1905 renders this a comparatively easy matter to what it formerly was.

Slaughter Houses.

The Slaughter Houses in the City number 104, the same as last year, none having been closed during the year. 63 of these are private with Permanent Licenses, 38 private with Annual Licenses, one for foreign animals at Avonmouth, and two knackers yards.

These are all visited as frequently as possible by Inspectors Thomas and Gitsham, who are always most energetic in the execution of their duties, and during the year were responsible for the destruction of 32 tons, 5 cwt., 3 qrs. and 9 ℔s. of meat of various kinds. This amount consisted of the entire carcases of 31 beasts, 25 sheep, 90 pigs, 4 calves, and 2 lambs, and the remainder parts of carcases and odd pieces of meat.

There were also destroyed 23 turkeys, 63 rabbits, 2 tins of meat, 8 dozen tins of salmon, 22 boxes of sweets, 625 packages of fish (not weighed), 672 packages of vegetables and 254 packages of fruit, all of which were unfit for food and were voluntarily surrendered. No prosecutions were therefore necessary.

The Limewashing and Cleansing of the Slaughter Houses, as required by the Bye-Laws, has been so well carried out that no Statutory notice was required. Many improvements in the internal arrangements have been effected, particular attention being given to the floors and paving.

It must be quite obvious that two Meat Inspectors cannot possibly be at all these private Slaughter Houses at the time of killing, scattered as they are throughout the City and miles apart. It is thus apparent that many carcases escape inspection until they get to the shops, where the offal is not taken as a rule. It is, however, with much pleasure that I again bear testimony to the helpful manner of the majority of the butchers and bacon curers in the City, who, when they have a doubtful carcase and an Inspector is not in the neighbourhood, telephone to the Office for one to come at once: this he does and his decision as to the condition of the carcase is final. I must again express my regret that apparently there is no prospect of the provision of Public Abattoirs. They may come with the Millennium.

Housing, Town Planning, &c., Act, 1909.

This Act which came into force at the beginning of the year will doubtless have far-reaching effects on the housing question, and as soon as the necessary books were obtained, which took a considerable time, as they had to be in a form prescribed by the Local Government Board, systematic operations commenced, and up to the end of the year 611 houses were dealt with.

Housing, Town Planning, &c., Act, 1909.

Year.	No. of houses inspected.	Found defective.	No action taken.	Made habitable.	Out-standing at end of year.	Closed.		Demolished.
						Under order.	Voluntarily.	
1910	611	402	209	235	94	18	56	25

This systematic inspection is still in progress, and I am pleased to say, is having a very good effect. In several cases recently owners of property bordering on the slum line have set to work and put their houses in order when they found what was going on in the immediate vicinity of their property.

Factory and Workshop Act.

I am pleased to report that the work in connection with this Act has again been carried on most amicably between H.M. Inspectors of Factories and this department, largely due to the tact and energy displayed by Inspectors Griffiths and Wreford, both of whom up to October last were specially detailed for this work: since October by Inspector Wreford only (Inspector Griffiths having been put on District work). The workshops now number 1,874, an increase of 22 over last year, but the numbers vary considerably from year to year. The appended summary (Table 2) shows that 1,325 nuisances of various kinds were found and abated under notice during the year, and that 5,443 visits were paid.

The houses of 686 outworkers were visited, 34 minor sanitary defects found, and the nuisance arising therefrom abated under notice, either written or verbal. Fourteen intimations of sanitary defects of various kinds in Factories were received from H.M. Inspectors and 12 of protected persons sent to them from this department.

Offensive Trades.

Offensive Trades have as usual been visited at frequent but uncertain intervals, and 35 nuisances of various kinds found to exist have been abated. On most occasions a verbal notice was sufficient, and the notice is generally accompanied by a suggestion for some improvement in the methods adopted to effectually prevent recurrence. It is in this way that the visits of your officers are appreciated by both masters and men alike, and any reasonable suggestion from them is generally adopted.

Smoke Abatement.

209 observations have been taken during the year, resulting in the abatement of 30 nuisances from the emission of black smoke. This has been done chiefly by moral suasion, and several large firms have, at considerable

cost, readily adopted smoke abatement appliances as suggested by your officers. The service of a Statutory Notice might have been considered as interference and somewhat resented by the firms in question, whereas the adoption of these friendly suggestions has resulted in a considerable financial gain, owing to the saving of fuel, and thus the visits of your officers are not considered to be officious.

Careless and inefficient stokers are, however, still too frequently met with, and are responsible for much of the dense black smoke emitted from factory chimneys.

Dairies, Cowsheds and Milk Shops.

In consequence of the lamented death of Inspector Casely, early in the year, the work in connection with this very important section of the duties of the Health Department was not carried on for some little time in such a thorough and systematic manner as usual. In June, however, your Committee appointed District Inspector H. C. Leat to the position of Inspector of Dairies, &c., and, in my opinion, a better man for the position could not have been found. He is active, energetic, courteous, and above all, possessed of great tact, and has already proved himself to be a worthy successor of such an eminently good officer as the late Mr. Casely. Inspector Leat is now engaged in visiting every place where milk is produced, stored or sold, whether wholesale or retail, and revising the Register of all these places ; the latter is a work of considerable magnitude but when completed I shall be able to present it in a complete form. At the same time he is giving special attention to the lighting, ventilation, paving and water supply at cow sheds as well as the general cleanliness. The Cowsheds within the City area now number 114, with accommodation for 939 cows.

	DAIRIES AND MILKSHOPS.			COWSHEDS.	
	Number Inspected.	Defects Found	Dis-continued.	Number Inspected.	Defects Found
1890	545	157	100	35	19
1891	858	472	115	36	13
1892	1805	285	108	Number of Inspections. 1173	33
1893	1751	161	126	1069	45
1894	1880	189	56	1089	41
1895	1964	145	53	1587	31
1896	1972	136	62	2426	39
1897*	2058	97	50	2063	55
1898	2075	121	65	2466	19
1899	2187	101	73	2499	33
1900	2142	43	78	2347	30
1901	1964	89	120	2184	33
1902	1968	78	100	2620	31
1903	1809	72	93	2049	39
1904†	1558	117	100	2340	36
1905	1476	140	39	2453	37
1906	1476	83	97	2340	38
1907	1471	107	47	2379	40
1908	1450	72	20	1875	13
1909	1100	41	27	1114	12
1910‡	937	38	14	340	25

*City enlarged in November, 1897

†City enlarged in October, 1904.

‡From June only.

Common Lodging Houses.

The accommodation in private Common Lodging Houses is now as follows, viz.:—

Single Men	1,573	persons
Single Women ..	35	,,
Married Couples 27	54	,,

These houses are 44 in number, with 230 rooms. The Bye-Laws relative thereto have again been so well observed that no legal proceedings have been necessary, whilst many improvements in the shape of improved Sanitary conveniences have been effected during the past year under the provisions of the Public Health Acts Improvement Act, 1907. The Bye-Laws relative to Limewashing and General Cleansing are at all times rigidly enforced.

The Municipal Lodging House with cubicles for 120 men is becoming more appreciated than it was, and this is not to be wondered at, as there are up-to-date laundry appliances and foot baths free, and a full bath can be had for a penny.

The Salvation and Church Army Shelters also provide accommodation for about 250 others. A Summary of work done at these houses is appended.

In concluding my report I feel that I must express my gratitude to the Health Committee for the support always given me in the discharge of my duties. To the Medical Officer of Health, Dr. Davies, for invaluable advice and assistance, always so courteously and kindly given. I also desire to express my appreciation of the manner in which the Staff of Inspectors discharge their duties, they work together like a machine, for the betterment of the sanitary conditions of the City and the health of the citizens.

Your Committee will no doubt remember that two new Inspectors were appointed in October last, one to fill a vacancy, and one for Tenement Houses, &c., and I am more than pleased with the manner in which they have taken up and carried on their duties and seconded the efforts of the department. They have recognised the fact that they are Sanitary Inspectors appointed for the improvement of the Sanitary conditions of the City.

My thanks are again due and are hereby gratefully tendered to the Town Clerk and his assistants, and to the City Engineer and his Staff for much valuable advice and assistance.

I am Gentlemen,
Your obedient Servant,
JAMES W. KIRLEY.
Chief Inspector of Nuisances.

Summary of Work effected in the Health Department during Twelve Years—1899-1910.

Prepared by the Chief Inspector of Nuisances.

TABLE SHOWING THE NUMBER OF NUISANCES ABATED AND OTHER WORK DONE IN EACH YEAR SINCE 1899.

	1899	1900	1901	1902	1903	1904*	1905	1906	1907	1908	1909	1910
Number of Nuisances abated	11837	10920	10151	10482	10542	11007	12232	10313	10369	9357	9361	8742
Polluted Wells closed	49	18	19	21	11	8	22	15	8	3	3	5
Houses supplied with Co.'s Water ...	150	78	83	65	47	51	91	50	44	33	34	49
Houses disinfected ...	951	2216	2652	3130	2866	2229	1950	2070	2057	1759	1726	2089
Articles of bedding, &c., disinfected or destroyed	29965	55307	66626	68330	63919	52813	53488	51026	46137	39841	45286	47444

*Enlarged City.

Summary of Nuisances Abated and Work done under the Supervision of the Inspectors in the Health Department during the Year ending December 31st, 1910.

Prepared by the Chief Inspector of Nuisances.

NATURE OF WORK.	By District Inspectors.	By Inspector of Dairies, &c.	By Inspectors of Workshops &c.	By Inspectors of Slaughter Houses, &c.	By Inspector of Common Lodging Houses.	By Inspector of Bake Houses.	TOTALS.
Visits and Re-visits	30163	1786	5443	18341	270	1285	57288
Drains entirely relaid, &c.	217	4	38	2			261
Do. partially relaid	557	3	43	3	1	2	609
W.C.'s fitted with new pans, &c. ...	592	7	74	3		1	677
Do. cleansed and amended	186	2	122				310
Do. fitted with flushing appliances ..	184	5	85	4		2	280
Additional W.C. accommodation provided	11		37				48
Dilapidated Houses repaired, &c. ...	420				9	14	443
Defective Roofs repaired	315	11	28				354
Sinks and Yard Gullies trapped ...	1044	16	53	12			1125
Yards paved or floors repaired	558	12	68	13			651
Cesspools abolished	9						9
Offensive Deposits removed	155	51	7	12		8	233
Keeping of Pigs, &c., prohibited ...	26						26
Smoke Nuisances abated	27		2			1	30
Offensive Trades do.	35						35
Polluted Wells closed	4	1					5
Company's Water provided to houses ..	41	5	2	1			49
Nuisances from overcrowding abated .	50		3				53
Dairies, &c., improved		9					9
Workrooms and Passages, limewashed, &c.			733				733
Do. better ventilation secured			21				21
Rooms at Tenement Houses &c., limewashed, &c.	1515						1515
Passages and Stairs at do. do.	320						320
Slaughter Houses limewashed				200			200
Do. Paving repaired ...				8			8
Limewashing, &c., secured		151			79	136	366
Other Nuisances abated	283	11	9	14	18	37	372
Totals	6549	288	1325	272	107	201	8742

No. of Complaints received and attended to	1295
,, Offensive trades visited	186
,, Smoke observations taken	209
,, Times smoke test applied to drains	1466
,, Notices served informal	2126
,, ,, ,, formal	190
Half-yearly Cleansing Notices served, Common Lodging Houses	79
,, ,, ,, ,, Bakehouses	136
,, ,, ,, ,, Dairies, Cowsheds, &c. ...	160
,, ,, ,, ,, Slaughter Houses ...	198
Yearly ,, ,, ,, Tenement Houses ...	267
No. of Visits to houses *re* infectious disease	5646
,, Houses disinfected after infectious disease...	2089
,, Articles of Bedding, &c., removed and disinfected ...	46929
,, Do. Do. and burnt	515
Total number of Articles dealt with	47444
Weight of Meat destroyed as unfit for food	32 tons 5 cwt. 3 qr. 9 lbs.

JAMES W. KIRLEY,

Chief Inspector of Nuisances.

City of Bristol.

FACTORY AND WORKSHOP ACT, 1901.

REPORT OF THE MEDICAL OFFICER OF HEALTH ON THE ADMINISTRATION OF THE ACT IN THE CITY OF BRISTOL DURING THE YEAR 1910 (Sec. 132, F. & W. Act, 1901).

Workshops.

The Factory and Workshop Act (1891) transferred the Sanitary control of "Workshops" and "Workplaces" from the Inspector of Factories to the City Council acting as the Urban Sanitary Authority.

A special Inspector of Workshops was appointed, Workshops were at once placed on the Register and inspected, and this control has been continuously exercised since its commencement up to the present. Upon the extension of the City in 1897, a second special Inspector of Workshops was appointed: in October last one of these Inspectors was transferred to District work. The progress of the work year by year, is shown in the following table :—

TABLE 1. **Workshops.** CITY OF BRISTOL.

Showing particulars in regard to the Inspection of Workshops since 1891.

Year.	Population of City.	No. of Workshops on Register.	No. of Nuisances abated.	Visits & Revisits.	Particulars sent to H.M. Inspector.	Communications received from H.M. Inspector.
1892	223,592	134	215	970	—	5
1893	225,028	349	568	2377	303	15
1894	226.578	584	644	2188	128	18
1895	228,139	764	558	1978	29	32
1896	230,623	881	578	2456	10	35
1897	232,242	1042	660	2674	14	19
CITY ENLARGED.						
1898	316,900	1123	1203	4943	16	21
1899	320,911	1602	1117	4494	37	16
1900	324,973	1800	1004	4263	13	15
1901	329,086	1846	1005	4875	12	25
1902	334,632	1872	1187	5480	21	62
1903	338,895	1532	1110	5885	39	71
1904	343,204	1537	1237	5563	45	88
CITY ENLARGED.						
1905	358.515	1611	1366	4973	25	52
1906	363,223	1652	1058	5141	14	37
1907	367.979	1611	1305	5224	36	63
1908	372,785	1740	1306	5595	19	50
1909	377,642	1852	1154	5947	12	41
1910	387,511	1874	1325	5443	12	14

The details of work secured during the year 1910 are shown in the following table:—

TABLE 2. **Workshops.** CITY OF BRISTOL.

Work secured by the Special Inspectors of Workshops, etc., in the City of Bristol, during the year 1910.

Total Visits and Re-visits	5443
Total Nuisances abated	1325

PARTICULARS OF NUISANCES DEALT WITH.

DRAINAGE AND FILTH NUISANCES.	Drains entirely relaid	38
	Drains partially relaid	43
	W.C.'s fitted with new pans	74
	W.C.'s cleansed and amended ...	122
	W.C.'s fitted with flushing appliances	85
	Additional W.C. accommodation provided	37
	Sinks and Yard Gullies trapped ...	53
	Offensive Deposits removed	7
STRUCTURAL DEFECTS	Defective Roofs repaired	28
	Yards paved or Floors repaired ...	68
LIMEWASHING AND CLEANSING.	Workrooms and Passages, limewashed and cleansed	733
VENTILATION AND OVERCROWDING.	Nuisances from overcrowding abated	3
	Better Ventilation secured in Workrooms	21
WATER SUPPLY.	Company's Water provided	2
	Other Nuisances	11

Home Work.

(SECS. 107 TO 115)

The following table shows particulars with regard to the lists of Outworkers received during the year 1910. The lists are kept by the Town Clerk, who forwards to the Medical Officer of Health the names and addresses of those Outworkers who reside within the District of the City of Bristol

TABLE 3. **Workshops.** CITY OF BRISTOL.

OUTWORKERS.

Showing Lists received during the year 1910.

Nature of Employment.	February Lists.		August Lists.	
	No. of Lists.	No. of Outworkers.	No. of Lists.	No. of Outworkers.
Boot and Shoe Making	11	95	5	73
Cabinet Making, etc.	1	2	1	4
Manufacture of Wearing Apparel	38	870	21	658
Other Trades ...	5	40	—	—
	55	1007	27	735

Upon receipt of the lists of Outworkers the Workshop Inspectors visit the premises as far as possible in conjunction with their work under the other provisions of the Act. The number of premises visited in 1910 was 686, and 34 sanitary defects were found to exist, which were rectified ; in no instance was any case found where wearing apparel was being made, cleaned, or repaired in a house, whilst any inmate was suffering from Scarlet

Fever or Small Pox (see Sec. 109). Nor did any case require action to be taken under Section 110, for the reason that all such conditions as are specified in Sections 109 and 110, have, since the adoption of the Notification Act in 1890, been most carefully guarded against by a complete system of administering the Notification and Public Health Acts, in which these questions have always received special attention.

Factory and Workshop Act, 1901.

Inspection of Bakehouses for the year 1910.

REPORT OF THE INSPECTOR IN RESPECT OF WORK DONE UNDER THE PROVISIONS OF THE ABOVE ACT, WITH PARTICULARS OF THE CONDITIONS FOUND.

The number of Bakehouses in operation at some period of the year was 340, which was the same as in 1909.

Inspection of Bakehouses instituted and continued since 1884 has been regularly carried out, 1,285 inspections being made, which is an increase of 176 upon the previous year.

The gradual improvement obtained by regular inspection in past years under the Factory and Workshops Act has been well maintained, and the number of the various contraventions or defaults noted was 45 less than in 1909, Particulars of which are given in Table 5.

Improved appliances which do away with much personal handling, and shortens the hours of labour, are being frequently introduced, and much diminished the inhalation of flour dust trouble.

The number of Bakehouses that come within the provisions of the Underground Bakehouse Act, in use is the same as last year, *i.e.* 29, but only 16 of these are totally underground, the remainder being only partially so.

Neglect of Limewashing and General Cleaning cases were considerably less than last year, and a higher standard in the latter matter is being observed in many places, and is called for where necessary.

All the notices, numbering 201, were complied with, or were in hand at the end of the year, or have since been attended to.

I am, Gentlemen,

Yours obediently,

S. O. DIMOND,

Inspector of Bakehouses.

Workshops. TABLE 4. CITY OF BRISTOL.

BAKEHOUSES.

Showing defects found and remedied in each year since bakehouse inspection was instituted.

Year.	Particulars.	Total.
1884	Total contraventions found in respect of cleansing, lime-washing, defective drains, repairs, and defective ventilation.	342
1885	Ditto	244
1886	Ditto	96
1887	Ditto	132
1888	Ditto	69
1889	Ditto	65
1890	Ditto	89
1891	Ditto	80
1892	Ditto	71
1893	Ditto	36
1894	Ditto	57
1895	Ditto	74
1896	Ditto	57
1897	CITY ENLARGED IN 1897.	140
1898	Ditto	178
1899	Ditto	168
1900	Ditto	172
1901	Ditto	151
1902	Ditto	198
1903	Ditto	192
1904	CITY ENLARGED Including special work required in underground bakehouses.	250
1905	Ditto	230
1906	Ditto	232
1907	Ditto	281
1908	Ditto	205
1909	Ditto	246
1910	Ditto	201

TABLE 5.

1910.

Table of Bakehouse Inspection for the Year.

With particulars of Condition, Contraventions, Action taken, and Results.

Total number of inspections and visits	...	1285
Number of Bakehouse premises found to be in good or passable order and condition	1084	
Ditto ditto not in satisfactory condition from one of the undermentioned defects	201	
	1285	1285

PARTICULARS OF DEFECTS AND CONTRAVENTIONS.

Total Defects.	Nature of Defects, etc., and Improvements secured.		Total Notices	Description of Notices Complied With.	
201	Contraventions of lime-washing regulations	136	201	Informal Notices given to abate nuisances, effect repairs, or comply with Regulations	161
	Ditto General cleaning	37		Various Written Notices served and complied with, or under way at end of the year ...	40
	Bakehouse premises with defective drainage	1			
	Ditto with defective floors, roofs, paving, or other dilapidations ...	14			
	Ditto Manure accumulations and other Nuisances	9			
	Waterclosets reconstructed and Flushed ...	3			
	Traps put in (Intercepting)	1			
201		201	201		201

S. O. DIMOND, *Inspector*.

BAKEHOUSES.

THE FOLLOWING SUMMARY WAS PREPARED BY THE INSPECTOR OF BAKEHOUSES IN NOVEMBER, 1910, FOR THE INFORMATION OF THE LOCAL GOVERNMENT BOARD.

Bristol Bakehouses. Conditions.

The number of Bakehouses in use in the City last year was 340.

They comprise about 300 small bakeries in which less than four persons are employed, including the owner of the business, and about 40 in which a greater number are engaged, but not amounting to more than 6 or 8 except in two or three instances.

They consist of 311 above ground Bakehouses, and 29 come within the provisions of the Act relating to Underground Bakeries.

300 of these Bakeries are chiefly used for the manufacture of bread, and 40 for the manufacture of confectionery, etc., but bread is made more or less in nearly all of them, and confectionery in many bread bakeries.

TEMPERATURE.

This is chiefly regulated by the conditions necessary for the successful manufacture of the goods, and for this a temperature of from 70° to 80° is required at certain periods of the process, and according to weather conditions, and these periods vary according to the volume of trade done. In confectionery bakehouses the temperature is generally lower.

VENTILATION.

In Bristol this matter has received much attention for years. In old Bakehouses, which were often places utilised and not properly adapted or constructed for the trade, improved means of ventilation have been secured where necessary from time to time, consequently there is but little cause for complaint now. It is found that the operatives frequently block up the ventilating apertures, as they object to cold air on the grounds of personal comfort, and injury to goods under manufacture; and in many of these small bakeries it is almost impossible to arrange inlets and outlets without draught.

The replacement of old coal fuel ovens (Blower and Register) by those of improved types, to the extent of about 30 per cent. during the last few years, has considerably improved the health conditions as a whole, as the sulphurous fumes that emanated from the old ovens during setting time are almost entirely absent in the new ones, and where adopted, better ventilation has thus been secured.

In all new and reconstructed Bakeries adequate means of ventilation are insisted upon.

LIGHTING.

Of the 340 Bakeries in use, 337 are provided with sufficient natural light, but in a few some assistance from artificial light is needed in dark weather.

FLOOR AND WALL SURFACES.

In 268 there are good or satisfactory glazed, plastered, or smooth struck brick walls, and floors of brick squares, pennant stone or cement concrete.

In 65 the walls and floors are in fair or passable condition.

In seven the walls are rough stone work, chiefly with stone floors, which are not so well laid, but cannot be said to be a nuisance.

Whenever there is a defect found, notice is immediately given for repairs to be carried out, which is invariably complied with, and this happened in 13 instances last year.

CLEANLINESS OF FLOORS, WALLS, TABLES & UTENSILS.

During 1909 lime-washing of walls and ceilings was called for in 170 instances, or 30 cases more than 1908.

Notices to clean floors or utensils were given in 43 instances.

The cleaning defaults occurred chiefly in the smaller confectionery, and some in the small bread bakeries.

STORAGE ARRANGEMENTS.

In some cases proper accommodation for the storage of goods for manufacture is not satisfactory, on account of want of space. In others the store places are ill-constructed, and in some quite inadequate, so that the goods are kept in the Bakehouses.

As regards manufactured goods, they are generally removed to the shops on the premises soon after baking is finished, or packed into the delivery carts. In some cases storage rooms or bins are provided, but there is room for improvement in this respect.

DRAINAGE.

As frequent inspection of all bakery premises is made, all sanitary defects that come under notice are at once remedied, consequently I am not aware that any defective drainage exists.

LAVATORIES.

Very few special Lavatories for the operatives are provided in this district. The washing and cleaning is done at the disconnected water tap sinks which are mostly situate in or near the Bakehouses.

LATRINES.

There are no trough Latrines, and the accommodation consists of pedestal, cottage pan, and glazed stone ware lined closets, with flushing apparatus in many cases, and the remainder are bucket flushed. There are no compulsory Bye-laws in force in the district in this respect. Few urinals are provided. Stable drains are largely utilised for this purpose.

SANITARY ENVIRONMENT, EFFLUVIA, DUST FROM OUTSIDE.

I know of no cases where there are detrimental effects experienced from outside, unless it can be said to come from stables in yards adjoining Bakehouses of which there exist about 150 cases. The stables are not directly communicating with the Bakehouses, and the manure removal is fairly well done, but as frequently the premises are small, the stable odour sometimes pervades the place.

Nuisance from outside dust is rare, as most of the Bakehouses are situate away from the streets, and openings on pavement levels into underground bakehouses are fitted with fixed glass frames, and the ventilating openings are placed six feet or more above ground.

AS AFFECTING HEALTH OF EMPLOYÉS. (A.)

In Bakehouses where old coal ovens exist there is a liability of the air being contaminated by the products of combustion being discharged into the bakehouse during setting time when it is closed up in cool weather.

Secondly through inhalation of flour dust, chiefly during blending and mixing operations. Where mechanical mixers have come into use the danger is much reduced.

Perhaps sudden changes of temperatures from the hot bakehouse to go on delivery rounds in cold weather may have a deleterious effect on the lungs. In large bakehouses this custom is not so general as it used to be, as special delivery men who do not work in the bakehouse are now employed.

I do not come across so many cases of baker's cough now, as was the case 20 years ago. I know of but three bad cases of Asthma (? baker's) at present, and I understand the Phthisis deaths amongst bakers have been three per year during 1908 and 1909.

CONSUMERS. (B.)

Beyond causes before mentioned, I do not remember any special causes likely to prejudice the consumers, except that perhaps hot goods are occasionally placed on floors or other places to cool, where there may be dust with organisms, or from being stored in neglected bins or store-places, and delivery carts—personal carelessness—or accident—and from flies which infest bakehouses in summer and autumn, especially in stormy weather.

SUGGESTIONS AS TO ADMINISTRATIVE DIFFICULTIES, OR NEED OF STATUTORY REQUIREMENTS.

There have been no special administrative difficulties experienced, but more definite regulations in respect of the following matters would assist considerably in the future.

1 Height of bakehouses.

2 Smooth wall surfaces to be compulsory.

3 Floor materials to be approved—laid smoothly—impervious joints. Floors to be inclined or channelled to disconnected sink, or sink in yards, to enable frequent washing to be carried out.

4 All W.C.'s should be flushed.

5 Walls near sinks, wash-ups, damp foundations, boiling stoves, to be faced with impervious materials.

Troughs (or trows) fittings, etc., to be removable for weekly cleaning, and cleaning of utensils.

6 Stables? Should they be allowed within certain distance. ? Construction of floors, channels, and drains of stables.

7 Storage of manure. Disinfection of dung pits to keep down flies. Construction of dung pits—none should be below ground surface, impervious sides, bottom and drainage.

8 Provision of urinals for bakehouses, clothes rooms, and lavatories outside bakehouses for employés.

9 Ventilation specified, with appliances to remove fumes and steam at source.

10 No special standard of lighting has been adopted.

S. O. DIMOND,
Inspector of Bakehouses,
Bristol.

FACTORY ACT. HOME OFFICE FORM.

Annual Report of the Medical Officer of Health for the year 1910, for the City of Bristol.

on the administration of the Factory and Workshop Act 1901, in connection with

FACTORIES, WORKSHOPS, WORKPLACES AND HOMEWORK.

1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises. (1)	Number of Inspections (2)	Number of Written Notices (3)	Number of Prosecutions (4)
FACTORIES .. .. .. (Including Factory Laundries)	663	60	None.
WORKSHOPS .. .. .. (Including Workshop Laundries)	4094	506	None.
WORKPLACES .. .. .. (Other than Outworkers' premises included in Part 3 of this Report)	None.		
TOTAL ..	4757	566	None.

2.—DEFECTS FOUND FACTORIES, WORKSHOPS AND WORKPLACES.

Particulars.	Number of Defects			
	Found	Remedied	Referred to H.M. Inspector	Number of Prosecutions
(1)	(2)	(3)	(4)	(5)
**Nuisances under the Public Health Acts :—*			(Re-employment of young persons 12	None
Want of cleanliness	733	733		
Want of ventilation	21	21		
Overcrowding	3	3		
Want of drainage of floors	None	None		
Other nuisances	250	250		
†Sanitary Accommodation :—				
Insufficient	37	37		
Unsuitable or defective ..	281	281		
Not separate for sexes ..	—	—		
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (S. 101)	None	None		
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) ..	None	None		
Other offences .. .. (Excluding offences relating to outwork which are included in Part 3 of this Report)	—	—		
Total	1325	1325	12	None

* Including those specified in Sections 2, 3, 7 and 8, of the Factory and Workshop Act as remediable under the Public Health Acts.

† Sec. 22 of the Public Health Acts Amendment Act, 1890, is in force in the City, the Standard conforms to the Memorandum.

3.—HOME WORK.

*Nature of Work. (1)	†Lists.	†Outworkers.	
Outworkers' Lists (S. 107) :—	Twice in the year.	Twice in the year.	
Lists received from Employers—	(2)	Contractors (3)	Workmen (4)
Wearing Apparel—Making, &c.	42	—	1321
Furniture and Upholstery	2	—	6
	44	—	1327
	Once in the year.	Once in the year.	
	(5)	Contractors (6)	Workmen (7)
Wearing Apparel—Making, &c.	31	—	347
Brush Making	1	—	24
Stationery	4	—	16
	36	—	387
‡Number of Addresses of Outworkers received from other Councils (8)	13		
Number of Addresses of Outworkers forwarded to other Councils (9)	1651		
Notices served on occupiers as to keeping or sending lists (10)	61		
Prosecutions—			
Failing to keep or permit inspection of lists (11)	None.		
Failing to send lists (12)	None.		
Number of Inspections of Outworkers' premises (13)	686		
Outwork in unwholesome premises, Section 108 :—			
Instances (14)	None.		
Notices served (15)..	None.		
Prosecutions (16)	None.		
Outwork in Infected Premises, Section 109, 110.			
Instances (17)	None.		
Orders made (S. 110) (18)	None.		
Prosecutions (Sections 109, 110) (19)	None.		

---

* If an occupier gives out work of more than one of the classes specified in column 1, and subdivides his list in such a way as to show the number of workers in each class of work, the list should be included among those in column 2 (or 5 as the case may be) against the principal class *only*, but the outworkers should be assigned in column 3 and 4 (or 6 and 7) into their respective classes. A footnote should be added to show that this has been done.

†The figures required in columns 2, 3 and 4 are the *total* number of lists received from employers who comply strictly with the statutory duty of sending *two* lists each year and of the entries of names of outworkers in those lists. The entries in column 2 must necessarily be *even* numbers, as there will be two lists for each employer—in some previous returns odd numbers have been inserted. The figures in columns 3 and 4 will usually be double of the number of such employers and (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.

‡ In view of the wide discrepancies found to exist between the totals in the two columns when the returns are added together, it is desired that care may be taken to give exact figures. Only those addresses should be counted which have actually been received from or forwarded to other Councils during the year covered by the report.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Important classes of workshops, such as workshop bakehouses, may be enumerated here:—	
Workshops	1874
Workshop Bakehouses	340
Total number of workshops on Register ..	2214

5.—OTHER MATTERS.

Class. (1)		Number. (2)
Matters notified to H.M. Inspectors of Factories:—		
Failure to affix Abstract of the Factory and Workshop Act (S. 133)		12
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5)	Notified by H.M Inspector	14
	Reports (of action taken) sent to H. M. Inspector	14
Other		None.
Underground Bakehouses (S. 101):—		
Certificates granted during the year ..		None.
In use at the end of the year—	Underground .. .. 18 Partially underground 11	29

Note.—The Factory and Workshop Act, 1901 (s. 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, workplaces or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

D. S. DAVIES, M.D.,
Medical Officer of Health.

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